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AMAX

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1969 Annual Report

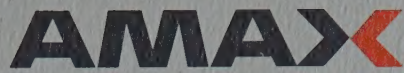


Pictures on the Front Cover depict successful results of AMAX efforts in environmental control.

- a.** The lake where the youngsters are fishing is part of an area set aside for conservation at AMAX's Urad reservoir in Colorado. It has been stocked with trout and opened to the public.
- b.** The serene cow pasture and watering pond was a coal mine before being reclaimed by Ayrshire Coal Company's Meadowlark Farms Division.



- c.** Corn now grows on other land reclaimed from a coal mine.
- d.** This view of the reservoir at Urad's molybdenum mine again shows the results of AMAX conservation efforts.
- e.** Water-skiing is an active sport on a tree-bordered lake over land once mined by Ayrshire Coal Company.



AMERICAN METAL CLIMAX, INC.

Incorporated in the State of New York in 1887

1270 AVENUE OF THE AMERICAS

NEW YORK, N.Y. 10020

1969 Annual Report

CHILDREN FISHING, cattle wading in a placid pond, a farmer inspecting an ear of corn, water-skiing on a woodland lake—what have they to do with the annual report of a natural resources development company? They represent the response of AMAX to the need to protect the quality of our environment.

• • •

Some people contend that there is a fundamental contradiction between economic growth and the quality of life—that in order to have one the other must be sacrificed. AMAX believes that continued vigorous economic growth—properly directed—can provide the means of enriching the quality of life. As a corporate citizen, AMAX strives to contribute positively to this enrichment.

• • •

AMAX has proved that the mineral wealth of the earth can be mined in harmony with recreation and conservation. And so some of AMAX's environmental activities are the Cover theme for this 1969 Annual Report. The next page continues this theme with a view of the new Henderson mine, at the Continental Divide in Colorado.

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The Back Cover shows in a series of pictures the transition from an open-pit coal mine to a wheat field.



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General Counsel
Sullivan & Cromwell

Certified Public Accountants
Lybrand, Ross Bros. & Montgomery

Transfer Agent
Manufacturers Hanover Trust Company

Registrar
Irving Trust Company

The 1970 Annual Meeting of Shareholders
of American Metal Climax, Inc.
will be held May 7, 1970 in the theater of the
Barbizon-Plaza Hotel, 101 West 58th Street,
New York City, at 2:15 P.M. A formal notice
of the meeting, together with a proxy statement
and form of proxy, will be mailed to each AMAX
shareholder during the first part of April,
at which time management will request proxies.

EVENTS OF THE YEAR

- February** AMAX receives Gold Medal Award from the Sports Foundation for environmental control programs at Urad molybdenum project in Colorado.
- June** AMAX Aluminum Mill Products dedicates major sheet-rolling mill at Joliet, Illinois. Plant geared for initial annual capacity of 90 million pounds of aluminum sheet for consumer and industrial markets.
- Mt. Newman Iron Ore Project officially opens in Western Australia in ceremonies seen worldwide on closed-circuit television via communications satellite transmission. First shipment of high-grade Mt. Newman ore left Australia for Japanese steelmakers on April 1.
- August** AMAX and Peñarroya of France sign preliminary agreements to develop a nickel-mining complex in New Caledonia in the South Pacific. The venture is scheduled to begin production by 1975. Capacity in the first phase of the project is planned for an annual output of 100 million pounds of nickel plus byproduct cobalt.
- October** AMAX merges with Ayrshire Collieries Corporation, a major producer of bituminous coal, with AMAX as the surviving company. AMAX Fuels and Chemicals Group formed for new activities in coal, fly ash and other carbon products. New group also includes Southwest Potash and AMAX Petroleum.
- AMAX wins first annual Business Citizenship Award from Business Week magazine for preservation of the natural environment. Award recognizes AMAX's corporate philosophy of environmental control.
- December** Roan Selection Trust and Government of Zambia agree in principle on plan under which Zambia is to acquire a 51% interest in the operating companies of the RST Group in Zambia. RST will continue to manage the mining operations and act as sales agent.

FINANCIAL HIGHLIGHTS

AMERICAN METAL CLIMAX, INC.
and its Consolidated Subsidiaries

For the Year	1969	1968
Net sales	\$753,490,000	\$570,590,000
Operating and other income	74,280,000	56,850,000
Dividend income	22,230,000	20,050,000
Extraordinary items net of taxes	—	7,580,000
Net earnings	69,090,000	67,350,000
Per common share:		
Operations and dividends	\$2.92	\$2.56
Extraordinary items	—	.33
Net earnings	\$2.92	\$2.89
Dividends declared	32,450,000	29,770,000
Per common share	\$1.33	\$1.27
Capital expenditures	63,040,000	101,210,000
Acquisition of Ayrshire fixed assets	76,240,000	—
Depreciation and depletion	27,210,000	25,870,000
 At the Year-End		
Working capital	\$274,460,000	\$265,180,000
Total assets	940,920,000	782,340,000
Notes payable (including current installments)	213,800,000	199,570,000
Shareholders' equity	553,080,000	455,230,000
 Common shares outstanding	23,652,128	23,235,441
Number of shareholders	30,021	28,550
Preferred shares outstanding	790,891	102,649
Number of shareholders	598	880
Number of employees	16,200	13,600

The 1968 net earnings and dividends per share of common stock have been adjusted to give effect to the 3-for-2 common stock split in 1969.

On October 31, 1969 the Company acquired, in exchange for 790,891 shares of its Series A Convertible Preferred Stock, all of the outstanding capital stock of Ayrshire Collieries Corporation, which is engaged principally in the production of bituminous coal, chiefly in Indiana, Illinois and Kentucky. The transaction has been accounted for as a purchase and accordingly the net assets and operations of Ayrshire since that date have been included in the above tabulation.

REPORT TO SHAREHOLDERS:

AMAX had record sales and earnings in 1969. We had initial earnings from our participation in two new minerals—iron ore and coal; we began the production of lead in the United States; and we took a substantial first step toward our goal of producing and selling nickel. Large-scale capital investments continue to provide a solid base for further growth.

■ As we start a new decade, it is appropriate to review AMAX's progress in the past ten years. Ten years ago the Letter to Stockholders in our Annual Report for 1960 began with the words: "1960 was the best year in your Company's history."

While this was true again in 1969, growth over the decade is shown by a comparison of our business at the beginning and end of the period.

In 1960 sales were \$368 million, earnings were \$41 million, net fixed assets were \$94 million, capital expenditures were \$16 million. Shareholders' equity was \$250 million.

Last year, sales reached a record high of nearly \$755 million, more than double the 1960 level. Earnings were \$69 million, up 68% from 1960. AMAX's net fixed assets have grown nearly three and one-half times to \$440 million. Working capital has more than doubled, from \$134 million in 1960 to \$275 million. Capital expenditures during the past decade totaled \$526 million—three-quarters spent in the past five years. Shareholders' equity is now \$553 million, more than double the 1960 figure.

Of course, we have had to finance a part of this expansion in our business by increasing our

long-term debt, which has risen from \$15 million in 1960 to \$201 million in 1969. In addition, we reinvested \$251 million of our earnings in the Company's growth and diversification. We have also been able to increase our annual dividend payments from \$20 million in 1960 to \$32.5 million in 1969. During the past 10 years shareholders received a total of \$258 million in dividends, about one-half of all earnings. The other half was used to expand our business.

During this decade, AMAX became a major producer of aluminum from ingot to finished products—in addition to adding coal, iron ore and domestic lead production. Aluminum accounted for 37% of our total sales in 1969, and has contributed increased profits in each year since we entered this business in 1962.

This year's Annual Report describes in more detail the various elements of our corporate growth during 1969:

- Initial lead production in Missouri.
- Expansion of copper, lead, zinc mining in New Brunswick, Canada.
- Expanded aluminum ingot production in the State of Washington.
- Initial production of aluminum mill products at our new plant in Joliet, Illinois.
- Initial production of iron ore in Australia.
- Merger with Ayrshire, a Midwestern coal producer.

These projects, the result of our heavy capital investments in recent years, had only initial effect on profits in 1969, but they will contribute increasingly to AMAX's earnings in years ahead.



Ian MacGregor (left), Chairman and Chief Executive Officer, Donald J. Donahue, President.

■ As indicated in this Annual Report, we are working on a number of further steps toward our growth objectives for the 1970's.

Of fundamental importance to our position as the Free World's principal source of molybdenum is our new Henderson mine in Colorado, where tangible progress is being made. Over \$200 million will be spent preparing for initial production by 1975. This will nearly double our molybdenum capacity and enable AMAX to meet the growing future demand we confidently anticipate for this essential mineral of modern industry.

In aluminum we are evaluating a second primary smelter and making progress in putting together a consortium of alumina users to bring into production our important bauxite reserves in Western Australia. This will round out AMAX's position in aluminum, fully integrated from bauxite to finished products. We are continuing to enlarge our fabricated aluminum facilities both at home and abroad, including further expansion of our new Joliet sheet mill.

Our joint venture with French interests in New Caledonia will lead to an important initial position in nickel mining by 1975. AMAX is well equipped to market this metal which, like molybdenum, is essential to modern technology.

We plan to make a start in nickel by reopening in 1973 or before the Port Nickel Refinery in Louisiana, on which we have a purchase option. This plant has been maintained in standby condition since 1960 when its supply of nickel concentrates was cut off by action of the Cuban Government. Also, when a decision is made to

begin development of the Selebi-Phikwe project in Botswana, the Port Nickel plant could supplement the important role AMAX may play in this small, new nickel/copper venture.

The Mt. Newman iron ore project, already producing 12 million long tons in its second year of operation, plans to increase its output to over 30 million tons per annum by 1975. This will make Mt. Newman one of the largest iron ore mines in the world. We have a 25% interest in Mt. Newman.

Ayrshire Coal Company plans new mines to meet the rapidly increasing demand for coal in the Midwest. We expect that Ayrshire's production of 9 million tons in its last fiscal year before the merger will be doubled during the next few years.

We are awaiting an early decision by the Puerto Rican Government to permit us to push ahead with plans to develop a new copper mine there.

To accomplish these further steps in our growth and diversification we are now planning to double in the next five years the \$400 million of capital expenditures made in the past five years.

On March 9 we advised shareholders by letter of a proposal to amalgamate Roan Selection Trust and AMAX after distributing some of RST's assets to its non-AMAX shareholders. The reorganization of RST would be coincident with the reincorporation of RST outside of Zambia, which has been agreed to as part of the settlement whereby the Zambian Government will acquire a 51% interest in the operating mining companies in Zambia and issue government-guaranteed dollar bonds in payment. Other RST shareholders will receive approximately \$76 million of AMAX

subordinated debentures with warrants attached in return for their share of the RST assets acquired by AMAX. We believe this reorganization offers the best and most equitable means of combining RST's remaining substantial assets and the talents and skills of the RST organization with AMAX's growing strength in international mining and marketing. It should benefit both groups of shareholders as well as meeting the Zambian interest in regard to operation of the mines.

■ AMAX growth and planning are keyed to the world's burgeoning demand for mineral raw materials. The need for metals and minerals to support continued economic growth is buttressed by the rapidly growing world population, the increasingly sophisticated technological nature of our modern industrial society and worldwide pressures for higher standards of living.

The United States demand for minerals is proportionately greater than that of any other nation. Yet, today we have complete self-sufficiency in only two hard minerals—molybdenum and coal. Foreign supplies of the other hard minerals are essential to America's existence. That is why AMAX is vigorously exploring and seeking to expand its minerals position in North America and other parts of the world that have favorable geological and political horizons.

America's need for access to foreign mineral resources increases with each year regardless of the treatment accorded American investors in certain countries. Thus attention will inevitably be focused on those countries which welcome the participation of American private capital in their mineral development. AMAX and other mining companies have urged that the U.S. Government adopt a positive minerals policy to assure American industry of continued supplies of vital mineral resources. We also urge that the Government adopt additional measures to offset the risks associated with private mineral development overseas, especially in the developing countries.

■ Our role as a supplier of many of the minerals and metals needed to maintain modern standards of living brings AMAX into direct contact with the growing national awareness of the problems of the environment. This is not a new problem for us. Planning for the broad impact of modern technology is an integral part of any mineral development. Our basic corporate philosophy recognizes our obligation to protect the environment in which we must work. As we see it at AMAX, this is a simple rule of good business. Increasingly, we are recognizing public demands that scenic, recrea-

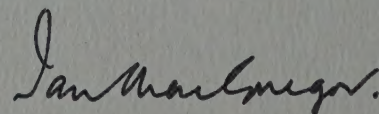
tional and esthetic values be taken into account, and we are learning to build mutual understanding and confidence between AMAX and conservation interests in the communities in which our plants and mines are located.

We are proud of the recognition already accorded AMAX for its achievements in good environmental planning. Obviously there is more to be done. We are now studying how AMAX can better achieve a corporate stance of consistent high performance in environmental matters. If the demands of a growing population for modern goods and services are to be met, there will have to be new mines and factories. The heavy costs of conserving and protecting our environment will have to be borne by the users of these goods and services, either as consumers or as taxpayers. Continued high level economic activity and growth provide the best assurance that these costs can be borne without imposing undue burden on the standard of living of all.

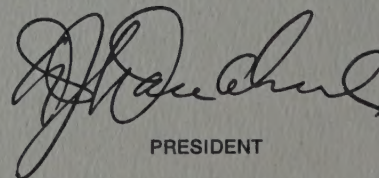
■ AMAX had no major work stoppages in 1969. Good employee relations contributed to the year's outstanding results. We trust that a number of important new contracts in 1970 can be negotiated without any interruption to normal operations. As we face both continued inflation and possible economic recession, any increases in costs resulting from new labor contracts will have an important influence on future Company earnings.

We continue to strive for higher safety standards at all Company installations. The Intalco plant was commended for its safety record by the State of Washington.

We extend our thanks to shareholders, customers, suppliers and employees for their continued loyalty and support.



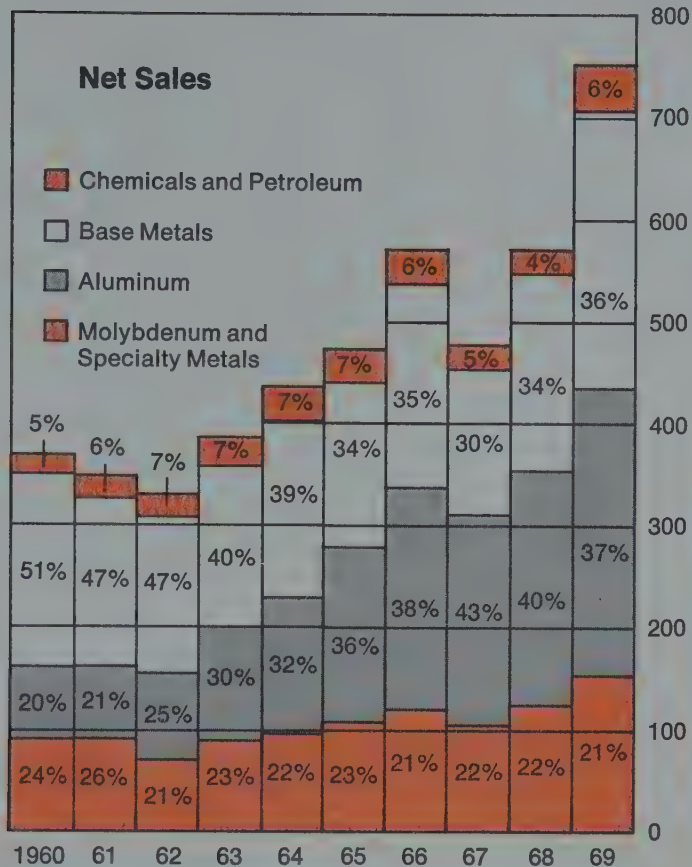
CHAIRMAN and CHIEF EXECUTIVE OFFICER



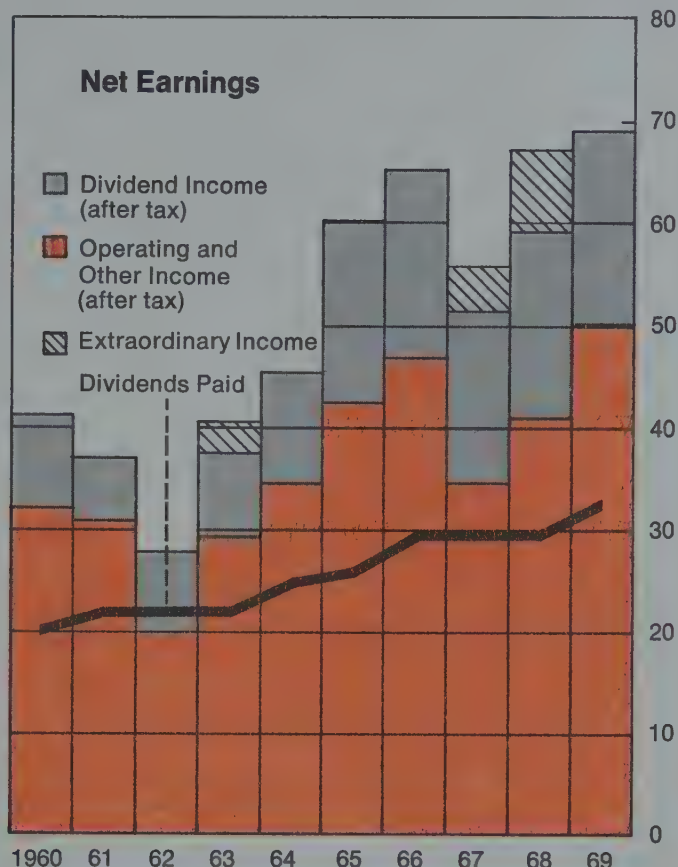
PRESIDENT

March 17, 1970

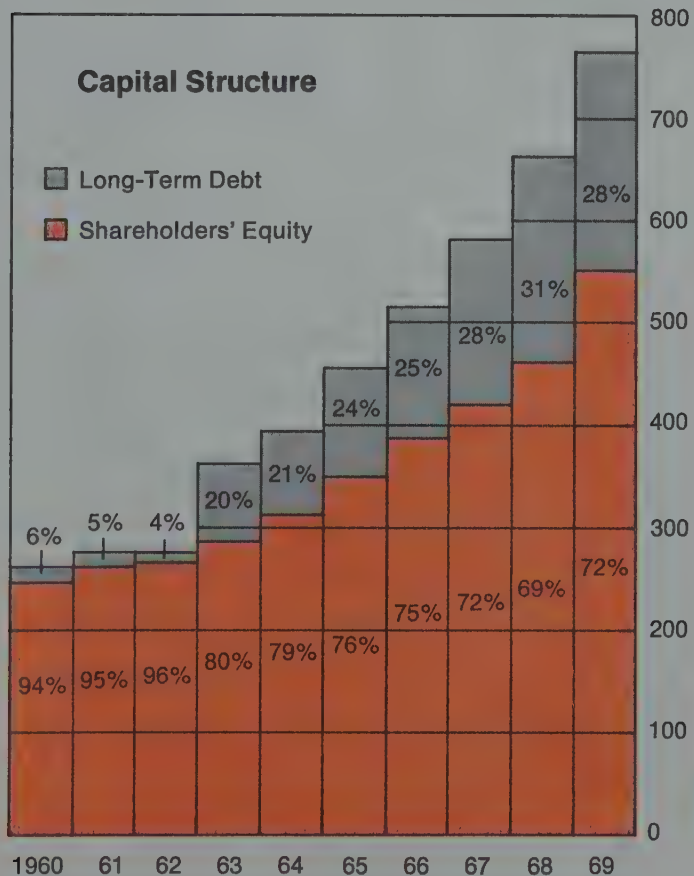
millions of dollars



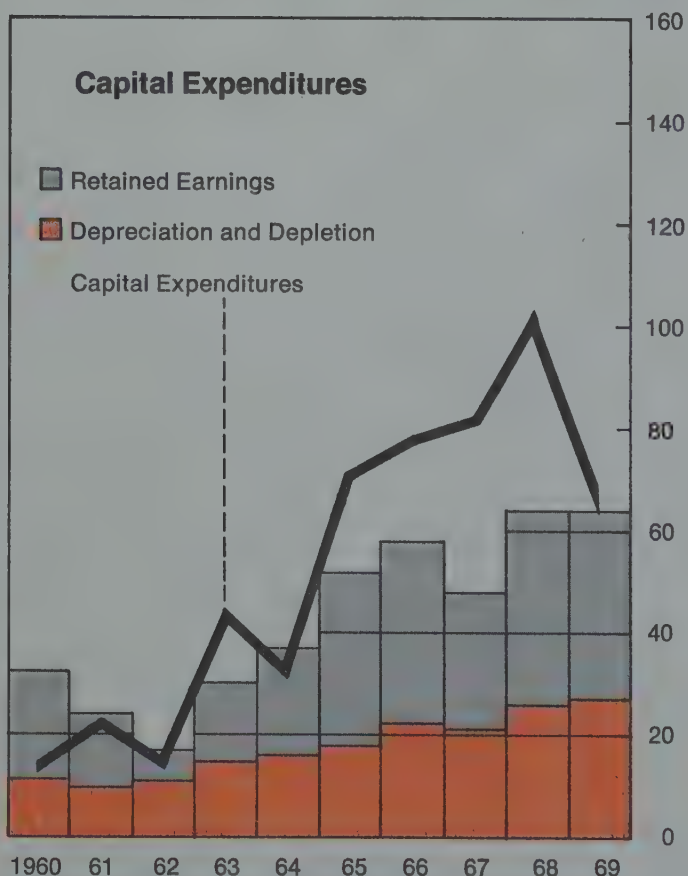
millions of dollars



millions of dollars



millions of dollars



Board of Directors

FOR THE TERM ENDING 1970

Thomas H. Bradford (*London, England*)
Director, Selection Trust Limited

William A. M. Burden
Partner, William A. M. Burden & Co.

Harold K. Hochschild *Honorary Chairman
of the Board and Chairman of
the Compensation Committee*

Carl M. Loeb, Jr.
*President, National Council on
Crime and Delinquency*

Ian MacGregor
Chairman of the Board

John Payne, Jr.
Vice President

John Towers
Vice President

FOR THE TERM ENDING 1971

A. Chester Beatty (*London, England*)
*Chairman, Selection Trust Limited and
Consolidated African Selection Trust Limited*

Arthur H. Dean *Partner, Sullivan & Cromwell,
General Counsel of the Company*

John P. Du Cane (*London, England*)
Director, Selection Trust Limited

Gabriel Hauge
President, Manufacturers Hanover Trust Company

David Mayers
Vice President

Lawrence J. Plym

Gordon W. Reed *Consultant to the Company
and Chairman of the Finance Committee*

FOR THE TERM ENDING 1972

John B. Aird (*Toronto, Canada*)
Partner, Edison, Aird & Berlis and Senator of Canada

Donald J. Donahue
President

Stephen A. Furbacher
Vice President

Walter Hochschild *Honorary Chairman of the Board
and Chairman of the Executive Committee*

Harold J. Szold *Partner,
Lehman Brothers*

Edward C. Wharton-Tigar (*London, England*)
Managing Director, Selection Trust Limited

David D. Irwin
Director Emeritus

Officers

Ian MacGregor *Chairman and Chief Executive Officer*

Donald J. Donahue *President*

Richard B. Crowl *Vice President and Treasurer*

John F. Frawley *Vice President*

Stephen A. Furbacher *Vice President*

Pierre Gousseland *Vice President*

Charles B. Huizenga *Vice President*

Robert Marcus *Vice President*

David Mayers *Vice President*

Edward S. Miller *Vice President*

John Payne, Jr. *Vice President*

H. A. Sawyer, Jr. *Vice President and Controller*

Roger C. Sonnemann *Vice President*

Fred H. Stewart *Vice President*

John Towers *Vice President*

Reuel E. Warriner *Vice President*

Erwin A. Weil *Vice President and Secretary*

EXECUTIVE COMMITTEE

Walter Hochschild *Chairman*

Arthur H. Dean

Donald J. Donahue

John P. Du Cane

Harold K. Hochschild

Carl M. Loeb, Jr.

Ian MacGregor

Lawrence J. Plym

Gordon W. Reed

Edward C. Wharton-Tigar

FINANCE COMMITTEE

Gordon W. Reed *Chairman*

William A. M. Burden

Arthur H. Dean

Donald J. Donahue

Harold K. Hochschild

Walter Hochschild

Ian MacGregor

Lawrence J. Plym

Harold J. Szold

Edward C. Wharton-Tigar

ORGANIZATIONAL CHANGES

At the Annual Shareholders Meeting in 1969, David D. Irwin retired from the Board after 25 years as a director. He continues to be associated with the Company as its first director emeritus. Stephen A. Furbacher, David Mayers, John Payne, Jr., and John Towers, all vice presidents of the Company, were elected directors. Ian MacGregor, president, was elected chairman of the board, continuing as chief executive officer of the Company. Donald J. Donahue, executive vice president, was elected to succeed him as president. Fred H. Stewart was elected a vice president of the Company and became executive vice president of the newly established Ayrshire Coal Company Division in October.

In January, 1970 five additional vice presidents were elected: Richard B. Crowl, who also continues as treasurer of the Company; Pierre Gousseland, Amax Molybdenum and Specialty Metals Group; Charles B. Huizenga, president of Kawneer Company, Inc.; Robert Marcus, vice president for Special Projects; and Edward S. Miller, director of Corporate Development.

As AMAX has expanded, the scope of its operations has been extended, both geographically and in diversity of business. In order to provide effective management and delegation of responsibilities for maximum efficiency, the Company is now organized into five basic groups of compatible businesses. These operations are described by the group vice presidents in the individual sections that follow.

The success of a natural resources company depends on developing new sources of minerals to mine, smelt, refine, fabricate, and market. Therefore, exploration carried on in many parts of the

world, as well as the United States, continues as a vital AMAX activity.

Exploration and Mine Evaluation: AMAX's long-sustained search for new sources of minerals continued with increased expenditures in 1969.

The Company enlarged its staff of earth scientists and engineers and expanded its geographic coverage in order to find additional reserves of minerals.

Major programs directed toward finding molybdenum and copper in the United States accounted for about 45% of the activities of the Exploration Division. Another 40% went for exploration in

AMAX geologists set up a diamond drill rig at a remote location in Canada where they will drill for sample cores of rock that will be assayed for mineral content. A snow tractor transports their equipment, but the geologists use a ski-mounted plane for quick trips to the laboratory. Prominent on the wing tip is the pressure tube for the air-speed indicator.



Canada to find molybdenum, copper and nickel and approximately 10% to expanded exploration in Australia. The balance went for work scattered widely over Europe, the Middle East, Latin America and the Pacific Islands.

One area of stepped-up activity was the search for nickel. Extensive programs of geophysical surveying, geologic mapping and preliminary drilling have been undertaken in Canada, New Caledonia and Australia. Drilling is planned in 1970 to test a number of interesting targets defined by earlier exploration.

Under a new joint venture agreement with the French mining concern, Peñarroya, the Company will participate in exploring extensive areas of nickel-bearing laterites in New Caledonia. Drilling and metallurgical test work will continue in 1970.

AMAX intensified exploration in Arizona and New Mexico and undertook preliminary test work on a number of copper prospects, which will be further tested in 1970. Drilling and underground bulk sampling began at AMAX's Kirwin, Wyoming copper property where metallurgical testing this year should determine the feasibility of putting this moderate-size deposit into production.

Although the development of the Henderson, Colorado molybdenum project will nearly double AMAX's molybdenum capacity when it comes into operation in the mid-1970's, the search for new sources of molybdenum is being aggressively pursued in anticipation of greatly increased long-range demand. As part of this program two new district offices were opened in Montana and Nevada. A number of prospects in western United States were tested by drilling with sufficiently encouraging re-

sults to warrant further testing in 1970.

AMAX continues to allocate increasing funds for studying new techniques to aid in the search for new sources of minerals. New geochemical and geophysical methods resulting from this research will serve as additional tools in assessing an area's potential for new mineral deposits.

Operations and Locations

EXPLORATION AND MINE EVALUATION DIVISION

New York, New York
ROBERT I. DAVIS
President

AMAX EXPLORATION, INC.

New York, New York
Tucson, Arizona
Denver, Colorado
Kirkland Lake, Toronto, Vancouver
and Winnipeg, Canada

AMAX MINING (AUSTRALIA), INC.

Sydney and Perth, Australia

While Exploration and Mine Evaluation continued, the operating divisions were occupied with the transformation of past discoveries into saleable products and earnings. There follows a detailed report on the performance of the divisions in each of the operating groups—Aluminum, Base Metals, Fuels and Chemicals, Molybdenum and Specialty Metals, and Overseas Mining Activities.

AMAX OVERSEAS MINING ACTIVITIES GROUP

AMAX MOLYBDENUM AND SPECIALTY METALS GROUP

AMAX FUELS AND CHEMICALS GROUP

AMAX BASE METALS GROUP

AMAX ALUMINUM GROUP





AMAX is a major supplier of aluminum sheet for mobile homes and sectional houses. This model, fabricated in two sections and joined on the site, contains approximately 1,300 square feet of living area.

AMAX ALUMINUM GROUP

AMAX is the fourth largest integrated domestic supplier of aluminum. Products of the Aluminum Group include primary and secondary ingot, plate, sheet, tubing, extrusions, foil and a broad line of architectural and residential building products. Sales in 1969 were \$280 million, an increase of 23% over 1968. This compares favorably with total U. S. aluminum industry shipments, which rose approximately 9%, a substantial part of the rise being accounted for by increased exports.

The strong Free World demand for aluminum in conjunction with only a moderate increase in primary capacity created a firmer international market, which allowed the list price of domestic and international primary ingot to be increased approximately 8%. The domestic price levels of most semifabricated products, including sheet, plate, tubing, extrusions and foil, also increased during the year. A continued strong international demand for aluminum should influence the U.S. market favorably in 1970.

As a leading supplier of aluminum to the mobile home industry, AMAX benefited from a 23% increase in production to 390,000 units. This market accounted for nearly one-fourth of all 1969 housing starts and offers one of the brighter potentials for achieving more economical housing through its lower-cost production technology. A continued

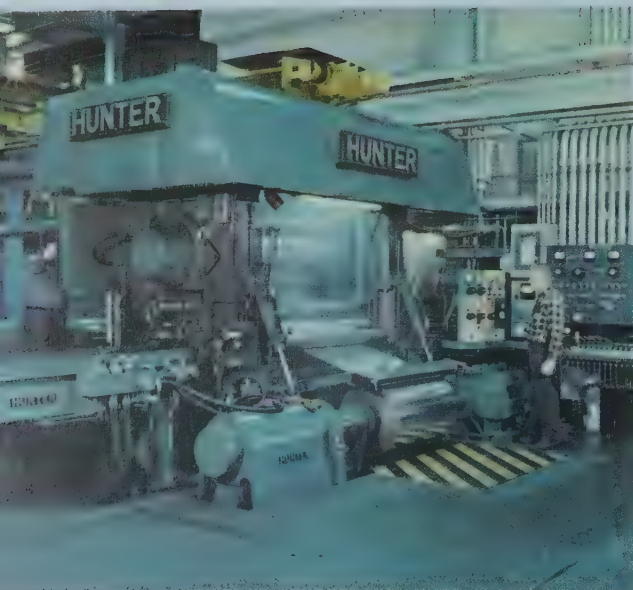
above-average growth rate is forecast.

Primary Aluminum: Intalco, AMAX's 50% owned reduction facility at Ferndale, Washington, operated for a full year at approximately its rated capacity of 265,000 tons per year. AMAX's share of this tonnage is insufficient to satisfy both its internal fabricating requirements and the outside ingot sales developed by the Primary Aluminum Division. To meet planned expansion of the fabricating divisions, AMAX will require additional reduction facilities in the early 1970's. Possible sites for such facilities are being actively explored.

Secondary Aluminum: The Apex Smelting Company increased sales in each of its three product lines—secondary aluminum ingot and zinc alloys, both of which it produces for the casting industry, and primary aluminum alloy ingot, which it distributes to the industry. Continuing production difficulties at the Cleveland smelting plant and a reduction in the spread between scrap aluminum costs and secondary foundry ingot prices adversely affected profit margins in the first part of 1969. Both situations improved in the second half. During the year a modernization program was begun at the Long Beach, California plant. The division's third plant, at Chicago, is scheduled for expansion in 1970.



The Kawneer Company, a leading architectural aluminum fabricator, supplied 3,000 custom aluminum windows for the 52-story headquarters building of the Bank of America in San Francisco.



New high-speed, 60-inch rolling mill gives AMAX Aluminum Foil Products in St. Louis additional capacity and product capabilities.

Mill Products: AMAX Aluminum Mill Products, Inc. produces sheet, plate, irrigation tube, rod and bar. It specializes in precision machined plate and Colorply® precoated coil, and recently added flexographic, rotogravure and laminating capabilities to the Joliet, Illinois and Riverside, California mills. Although start-up problems prevented the new rolling mill at Joliet from reaching planned production levels, the division increased sales substantially in 1969. During the year, construction began on additional furnace and casting facilities at the Joliet mill, which will increase annual capacity by 13% to approximately 100 million pounds.

The division's fabricating distribution centers supply preformed coated sheet and related products to the mobile home, recreational vehicle and factory-produced housing markets. Distributing centers in Dayton, Ohio and Elkhart, Indiana were expanded and new facilities erected in Boise, Idaho and Stayton, Oregon. Three more centers will be opened in 1970, bringing the total to 14.

Architectural Products: Kawneer Company, Inc. is a leading architectural fabricator, producing a complete line of storefronts, entrances, fascia, window and wall systems in four major regional plants. In 1969 Kawneer substantially increased sales and improved operating efficiencies. Construction began



Molten aluminum being poured into specialty "sow" forms at Apex Smelting Company's Cleveland plant. The 2,000 pound ingots will be recast by an automobile manufacturer for use in transmission housings and other die-cast components.

on a \$2.9 million plant in Harrisonburg, Virginia, where production for the wall and window market will be concentrated. The new plant will provide better service for a market in which Kawneer's penetration is relatively low. It also will clear other plants for more efficient production of standard architectural systems. The new plant is scheduled for production by mid-1970.

Extrusions: AMAX Aluminum Extrusion Products, Inc. supplies custom extrusions to a variety of markets. In 1969 both the Hernando, Mississippi and St. Charles, Illinois plants operated at planned capacity, substantially improving operating results. As part of a continuing program to establish moderate-size regional extrusion plants, ground was broken at Plant City, Florida for a \$1.6 million plant with annual capacity of 13 million pounds. Production is scheduled for mid-1970.

Foil: The Foil Products Division produces a broad range of plain, coated and laminated aluminum foil and is one of two U. S. pro-



Continuous cast tooling plate for the aircraft and other industries being machined at AMAX's Riverside, California plant. A vacuum lift protects the precision finish.



Stephen A. Furbacher
Group Vice President
AMAX Aluminum Group

ducers of lead and tin foil. The four-year, \$2 million expansion of its St. Louis plant, designed to broaden product lines and improve quality, was substantially completed with the installation of a high-speed, 60-inch Hunter aluminum foil rolling mill. The mill was started up late in the year and is expected to reach full production in 1970.

Residential Building Products: AMAX Aluminum Building Products, Inc. broadened its line of residential building products, which includes siding, soffit, fascia, roofing, rain-carrying equipment and sliding glass doors and windows. Depressed prices for aluminum siding together with manufacturing bottlenecks in new product lines adversely affected operations. Nonetheless, sales increased and prices improved during the latter part of the year.

Process Equipment: Hunter Engineering Company's sales of processing equipment were hurt by the cyclical decline in capital spending in the aluminum and other nonferrous industries. The U.S. market may remain temporarily depressed.

International: AMAX Aluminum International's sales, which are concentrated in sheet and architectural extrusions, increased markedly. The growth rate projected for this division is one of the highest in the AMAX Aluminum

Group. During 1969 construction began on a \$1.2 million custom extrusion plant at Roermond in The Netherlands. In 1970 AMAX will open another plant in Roermond, similar to an AMAX operation in England, to fabricate sheet for the mobile home and recreational vehicle markets. A new subsidiary, AMAX Aluminium S. A., has been established to market Kawneer products in France. In Mexico operations were strengthened by merging Kawneer de Mexico into Alumex S.A. de C.V. and increasing AMAX's ownership to 50%.

Bauxite: The outlook is favorable for the formation of a consortium to construct an alumina plant as part of the development of the bauxite properties in the Kimberley region of Western Australia. Due to the remoteness of the area and the resultant high infrastructure costs, the production complex must be large to be economical. The proposed alumina plant would be one of the largest in the world with annual capacity in excess of 1 million tons.

Stephen Furbacher

AMAX ALUMINUM GROUP

AMAX Aluminum
Company, Inc.

Greenwich, Connecticut
STEPHEN A. FURBACHER
President

AMAX ALUMINUM
BUILDING PRODUCTS, INC.

Evansville, Indiana
HOWARD JACOBSEN
Vice President and General Manager

Carlstadt, New Jersey
Chicago, Illinois*
Detroit, Michigan
Evansville, Indiana
Long Island, New York
La Mirada, California
Seattle, Washington

AMAX ALUMINUM
EXTRUSION
PRODUCTS, INC.

St. Charles, Illinois
JOE E. ROBERSON
President

Plant City, Florida
St. Charles, Illinois
Hernando, Mississippi

AMAX ALUMINUM
FOIL PRODUCTS

St. Louis, Missouri
DAVID A. GARDINER
General Manager

Riverside, California
St. Louis, Missouri

AMAX ALUMINUM
PRIMARY METAL DIVISION

Greenwich, Connecticut
HERBERT C. CLOUGH
President

Intalco Aluminum*
Ferndale, Washington

APEX SMELTING CO.

Chicago, Illinois
K. HAROLD SANKMAN
President

Chicago, Illinois
Cleveland, Ohio
Long Beach, California

KAWNEER COMPANY, INC.

Niles, Michigan
CHARLES B. HUIZENGA
President

Atlanta, Georgia
Bloomsburg, Pennsylvania
Carrollton, Kentucky
Cynthiana, Kentucky
Harrisonburg, Virginia
Niles, Michigan
Richmond, California

Kawneer Company Canada Limited
Toronto, Canada

South Bend
Screw Products, Inc.
South Bend, Indiana

AMAX ALUMINUM
MILL PRODUCTS, INC.

Riverside, California
PETER D. WEISSE
President

Bloomsburg, Pennsylvania
Boise, Idaho
Dayton, Ohio
Elkhart, Indiana
Joliet, Illinois
Loveland, Colorado
McPherson, Kansas
Marshfield, Wisconsin
Ocala, Florida
Peachtree City, Georgia
Riverside, California
Sacramento, California
Stayton, Oregon
Tulsa, Oklahoma

Decatur Aluminum Company, Inc.*
Decatur, Alabama

HUNTER ENGINEERING CO.

Riverside, California
S. J. COLLINS
President

AMAX ALUMINUM
INTERNATIONAL DIVISION

New York, New York

Alumex, S.A. de C.V.*
Mexico City, Mexico

AMAX Aluminium G.m.b.H.
Rheydt, Germany

AMAX Aluminium S.A.
Paris, France

Euramax Aluminium N.V.
Roermond, The Netherlands

Hunter Aluminium
Company Limited**
Aston Clinton, Bucks., England

Kawneer Company Pty. Limited
Girraween, N.S.W., Australia

Kawneer International Ltd.
Niles, Michigan

Kawneer Jamaica Limited*
Kingston, Jamaica

Mackamax Aluminium Limited***
Runcorn, Cheshire, England

*50%-owned
**60%-owned
***62½ %-owned

A section of the Los Alamos Scientific Laboratory's new proton accelerator immediately after furnace brazing in hydrogen. Some 400 tons of AMAX's OFHC® copper were used in fabricating the complete 2,400 foot-long main accelerator. This copper was chosen because it is oxygen-free, an important quality in brazing.





The mine-mill facility of Heath Steele Mines Limited, in New Brunswick, Canada has been expanded to process one million tons of complex lead-zinc-copper ore annually.



Three tons of OFHC® copper were used in the main engines of Saturn V rockets that propelled men to the moon. NASA photo.

AMAX BASE METALS GROUP

The Base Metals Group is made up of the AMAX Copper Division and the AMAX Lead & Zinc Division with their various mining, smelting, refining, and sales operations in copper, lead and zinc. The Group's activities also include the refining and marketing of precious metals, the recovery and marketing of byproduct cadmium, and the production and sale of metal powders. Sales for 1969 were \$275 million, up 40% over 1968, due in part to higher metal prices and in part to increased physical volume.

The worldwide base metals situation in 1969 was essentially one of short supply and strong demand. Accelerated industrial activity in the United States, Western Europe and Japan resulted in high consumption of these metals. Producers' price in the United States for copper increased from 42¢ to 52¢ per pound. The foreign producers' prices and outside market prices both here and abroad, which affect the Group's cost of raw material supplies and thus its prices for refined copper, rose from about 54¢ in January to approximately 75¢ by year-end.

The East St. Louis zinc price rose from 13.5¢ to 15.5¢ per pound, and the New York lead price from 13¢ to 16.5¢ per pound. Cadmium increased from \$2.80 to \$4 per pound.

Silver, however, was erratic. From \$1.95 per ounce at the beginning of the year, it dropped to a low of almost \$1.50 by mid-year,

rose again to almost \$2 and ended the year at approximately \$1.80 per ounce. Similarly, gold rose from \$42 to \$44 per ounce and then declined steadily to a level of about \$36 by year-end.

Copper: The United States Metals Refining Company, a subsidiary that is wholly-owned by AMAX, operates a custom smelter and refinery for copper and precious metals at Carteret, New Jersey. The plant, which is dependent for raw materials on the open market, produces about 10% of U. S. refined copper. Despite the tightness of copper supplies in 1969, the division maintained its market position and leadership in specialty coppers. Production for the year reached 225,000 tons, up 11% over 1968 when production during the early weeks of the year was affected by the nationwide copper strike. Uninterrupted operations, the expansion of the electrolytic tankhouse and the use of oxygen in the smelting and refining operations all contributed to the increase. As a part of the long-range expansion and modernization of the Carteret plant, a new facility for reclaiming copper from insulated wire scrap went into full-scale operation. This new and advanced process successfully overcomes environmental and other considerations which were problems in the past.

In Puerto Rico, AMAX and Kennecott Copper Corporation have made a proposal to

the Puerto Rican Government for the joint development of copper orebodies presently individually owned by the two companies. Sequential mining of the two properties will reduce initial capital requirements, extend the life of the project and further facilitate environmental control to the advantage of both investors and the Puerto Rican economy. Final approval of the joint venture by the Government is anticipated this year.

Precious Metals: Silver production at the Carteret refinery in 1969 was 50 million ounces, up 39% over 1968. Gold production for the first time exceeded 1 million ounces, and both platinum and palladium output also increased. This growth has enabled AMAX to maintain its position as a leading U. S. refiner of precious metals.

Metal Powders: AMAX maintained its volume in premium iron and copper powders in 1969 although the industry suffered from overcapacity. Total tonnages of metal powders sold increased approximately 8% in 1969.

Lead: A major integrated lead project in Missouri, jointly owned by AMAX and Homestake Mining Company, came into preliminary production in February 1969. During the year, approximately 350,000 tons of ore were mined and milled and 33,000 tons of concentrates produced. High labor turnover during the start-up year impeded progress in mine development and delayed attainment of scheduled production rates.

An intensive labor-training program was undertaken in mid-year to provide an increased source of skilled manpower, and it is anticipated that mine-mill operations will attain planned capacity during 1970.

Although the lead smelter operated satisfactorily and reached rated capacity, concentrate production from the mine and a wildcat strike limited refined lead output to 76,000 tons, including that produced on toll for others. The acid plant, installed as an air pollution control measure, produced 34,000 tons of sulphuric acid during the year.

Heath Steele Mines Limited: Through this wholly-owned subsidiary, AMAX has a 75% interest in a joint venture with International Nickel Company of Canada, Ltd., in a lead-zinc-copper mine and mill in New Brunswick, Canada. During the first half of 1969, the property produced approximately 5,300 tons of lead concentrates, 14,700 tons of zinc con-



The AMAX-Homestake lead mine-mill and smelter at Buick, Missouri began preliminary operations in 1969. It will reach full production in 1970.

centrates, and 16,500 tons of copper concentrates. Operations were shut down during the second half of the year to permit an expansion in mine and concentrator facilities, which nearly doubled capacity to 1 million tons of ore annually. Construction and installation of equipment were completed in December, and production at full capacity began as planned in January 1970. Mine ore reserves are sufficient to sustain operations at present capacity rates for at least 20 years.

Zinc: The smelter at Blackwell, Oklahoma operated at capacity levels throughout 1969, producing, as in the previous year, approximately 90,000 tons of slab zinc. In addition to the principal input of zinc concentrates purchased by AMAX, the Blackwell smelter treated initial receipts of company-produced zinc concentrates from the new Missouri lead complex.

Cadmium: AMAX is a major producer of cadmium metal and cadmium oxide, obtained as a byproduct from the zinc smelting operations at Blackwell, Oklahoma. Sales of cadmium in 1969 amounted to 1.9 million pounds, including purchases from the government stockpile for resale. This was a 12.5% increase over 1968 and accounted for about 13% of the U. S. market. U. S. consumption continued to rise sharply during the year, totaling 15.6 million pounds, an increase of



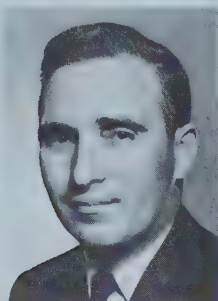
Pure silver crystals are scooped from an electrolytic separator cell at the United States Metals Refining Company in Carteret, New Jersey. Refined silver is derived from both primary and secondary raw materials.

17% over 1968. Domestic production also gained 17% to a new high level of 12.8 million pounds during 1969.

Special Activities: To keep AMAX abreast of the accelerating opportunities and requirements of base metals technology, an integrated research and development facility is under construction at Carteret, New Jersey. Research will be pursued in the extractive and physical metallurgy of copper, lead, zinc and their associated metals with the objective of developing new processes and products.

Environmental protection is also receiving the attention of management. Plants and mines have intensified programs for improved air and water quality control. Environmental factors are emphasized in planning new projects and developments. Effectiveness of the air quality provisions incorporated in the Missouri Lead operations exemplify this concern and drew praise from the U.S. Forest Service and conservation groups.

John Towers
Group Vice President
AMAX Base Metals Group



Operations and Locations

AMAX BASE METALS GROUP

AMAX Base Metals

New York, New York
JOHN TOWERS
Group Vice President

AMAX COPPER DIVISION

New York, New York
R. E. WOLFF
President

G. W. SCHELLE
Controller

AMAX Copper, Inc.

New York, New York
M. KRIEDEL
Vice President Raw Material Purchases

A. H. SCHMIDT-FELLNER
Vice President Marketing and Sales

UNITED STATES METALS REFINING COMPANY

Carteret, New Jersey
J. J. Cordiano
Vice President and General Manager

AMAX Metal Powders

Niagara Falls, New York
V. T. Price, Jr.
General Manager

PONCE MINING COMPANY, INC.*

New York, New York
D. H. ACKERMAN
Vice President
R. A. BRADLEY, JR.
Utua, Puerto Rico

AMAX LEAD & ZINC DIVISION

New York, New York

J. G. McCULLOUGH
President

H. B. CONOLLY
Vice President and Controller

AMAX LEAD & ZINC, INC.

New York, New York
E. V. FRAWLEY
Vice President Sales
R. J. O'HARA
Vice President Raw Material Purchases

BLACKWELL ZINC COMPANY, INC.

Blackwell, Oklahoma
A. K. BOOTH
Vice President and General Manager

MISSOURI LEAD OPERATING COMPANY

Bixby, Missouri
M. N. ANDERSON
General Manager

HEATH STEELE OPERATING COMPANY

Newcastle, N.B., Canada
R. D. BAKER
General Manager

BASE METALS RESEARCH & DEVELOPMENT

Carteret, New Jersey
W. R. OPIE
Vice President and Technical Director

*85%-owned



One of five divisions composing the new AMAX Fuels and Chemicals Group is the Ayrshire Coal Company. Two men stand in the bucket of an Ayrshire dragline excavator to indicate its great size. Its capacity is 40 cubic yards. Ayrshire has coal reserves in the Midwest and the Rocky Mountain States that are now estimated at nearly three billion tons.



Deep in the Southwest Potash mine at Carlsbad, New Mexico, a shuttle car has just brought 10 tons of potash ore 650 feet from the mine face. The ore is discharged onto a continuous belt system that will haul it three to five miles to the mine shaft. There it will be hoisted to the surface.

AMAX FUELS AND CHEMICALS GROUP

The Fuels and Chemicals Group was formed October 31, 1969 at the time of the merger of Ayrshire Collieries Corporation into AMAX. The group is responsible for the coal, coke and fly ash businesses acquired in the merger as well as the Company's agricultural and industrial chemicals and petroleum activities.

The Ayrshire merger was treated for accounting purposes as a purchase, and the consolidated statement of earnings includes the results of the Ayrshire operations for only the two months beginning November 1, 1969. On this basis, 1969 sales for the Fuels and Chemicals Group were \$35 million.

Coal: The Ayrshire Coal Company operates nine wholly-owned mines and manages the jointly-owned Gibraltar Mine. All of Ayrshire's mines, which are located in Indiana, Illinois and western Kentucky, are strip mines with the exception of the Thunderbird Mine, which is an underground slope mine. Ayrshire currently produces only steam coal, which is sold to electric utilities, industrial and other customers. Ayrshire ranked eleventh among bituminous coal producers in the United States during 1968, with production of 8.7 million tons.

For its fiscal year ended June 30, 1969, before the merger Ayrshire Collieries experienced a decline in earnings from previous years. Since the merger, production for the



A 15-inch drill rig at an Ayrshire coal mine bores deep holes for blasting operations.

two months ended December 31, 1969 was a record 2.4 million tons and earnings have improved.

In July, 1969 production was started at the new Ayrgem Mine in western Kentucky, which has an annual production capacity of 3 million tons. Construction of another 3-million-tons-a-year strip mine in Perry County, Illinois is under way and is scheduled to be completed in 1971. Other new mining properties are in the planning or development stage. As of December 31, 1969, Ayrshire controlled by means of fee ownership, lease or option recoverable coal reserves, both strip and underground, estimated at 2.7 billion tons. Exploration continues to locate new coal reserves, with activities concentrated in Indiana and Illinois.

Ayrshire, through its 100%-owned subsidiary, Meadowlark Farms, Inc., farms land prior to mining and after it is reclaimed subsequent to mining. The company operation recently was enlarged to a total of 85,000 acres of land of which 35,000 acres is reclaimed land and 50,000 acres is undisturbed land.

Republic Carbon Products: Republic Carbon Products Company was formerly a part of



AMAX Petroleum's water injection plant and central tank battery for the Alder Flats operation in central Alberta, Canada. Each of two wells there produces 100 barrels of oil a day, which is the maximum permitted by law.

Republic Coal and Coke Company, which was acquired in the Ayrshire merger. The division markets petroleum coke, byproduct coke, anthracite, diesel fuel and lubricating oil. Republic has formed a joint venture company with an oil company which is constructing a petroleum coke calcining plant on the Houston ship channel at Pasadena, Texas. This plant will have an annual capacity of 250,000 tons, and initial production is scheduled for the summer of 1970.

Fly Ash: Dayton Fly Ash Company was a 51%-owned subsidiary of Ayrshire Collieries Corporation and following the merger, AMAX agreed to purchase the remaining minority interest. The company procures fly ash from public utility companies and markets it for the making of concrete. Dayton Fly Ash will expand its operations in 1970 by installing equipment for the collection of fly ash at three additional public utility companies.

Petroleum: AMAX Petroleum Company owns producing and royalty interests in the United States and through a wholly-owned subsidiary it operates producing properties in three Canadian provinces. As a result of the sale of properties in 1967 and 1968, production in 1969 was reduced to an average of 1,300 barrels a day. In 1969, a 30% interest was acquired in 11 producing wells in Alberta,



A night view of the Southwest Potash Corporation chemical complex in Vicksburg, Mississippi. It produces potassium nitrate in agricultural, industrial, and glassmaker's grades; chlorine; and nitrogen tetroxide, a key fueling element in the space program.

and eight additional successful wells were drilled on this property.

AMAX has concentrated its remaining petroleum exploration activities in the North Sea. It has an 18.5% participation in licenses covering an area of 770 square miles off The Netherlands where two dry wells were drilled in 1969. AMAX also owns a one-third interest in oil and gas leases granted by the United Kingdom, covering 1,062 square miles, where seismic work is being completed.

Potash: Southwest Potash Division has the responsibility for mining, manufacturing and marketing agricultural and industrial chemicals.

In 1969, deliveries of muriate of potash from the Carlsbad, New Mexico mine and mill were 897,000 tons, an increase of 5% over 1968. However, sales revenue declined as potash prices continued downward. For several years, the potash industry has suffered from over-capacity. At the end of 1969, the Government of Saskatchewan, Canada, the major producing area, implemented a resource conservation program which may bring production more closely into balance with demand.

Southwest Potash's Vicksburg, Mississippi plant is the sole U.S. commercial producer of agricultural potassium nitrate. It also produces chlorine for local markets and nitrogen tetroxide for the space program. First

shipments of nitrogen tetroxide, a fuel oxidizer used to propel the Apollo spacecraft, were made late in 1969. During the year production and shipments from the Vicksburg plant reached an all-time high. Sales were also at record levels, surpassing the previous high attained in 1968 by 27%. To meet the increased sales demand, further plant expansion is planned for 1970.




John F. Frawley
Group Vice President
AMAX Fuels and
Chemicals Group

Operations and Locations

AMAX FUELS AND CHEMICALS GROUP

AYSHIRE COAL COMPANY

Indianapolis, Indiana
JOHN F. FRAWLEY
President

Mining Operations

Ayrco Mine, Oakland City, Indiana
Ayrco Mine, Central City, Kentucky
Chinook Mine, Staunton, Indiana
Delta Mine, Marion, Illinois
Gibraltar Mine, Central City, Kentucky*
Harmattan Mine, Danville, Illinois
Minnehaha Mine, Sullivan, Indiana
Sun Spot Mine, Vermont, Illinois
Thunderbird Mine, Farmersburg, Indiana
Wright Mine, Boonville, Indiana

Sales Offices

Chicago, Illinois
Indianapolis, Indiana
Minneapolis, Minnesota

Meadowlark Farms, Inc.

Sullivan, Indiana

REPUBLIC CARBON PRODUCTS CO., INC.

Chicago, Illinois
ARTHUR W. McCLAIN
President

Sales and Service

Bakersfield, California
Cleveland, Ohio
Corpus Christi, Texas
Detroit, Michigan
Houston, Texas
Indianapolis, Indiana
Kansas City, Missouri
Minneapolis, Minnesota
New York, New York
St. Louis, Missouri

Republic Coal & Coke of Canada Ltd.

Toronto-Sarnia, Ontario, Canada

International Calciners, Inc.*

Houston, Texas

SOUTHWEST POTASH DIVISION

New York, New York
EVERETT C. HORNE
President

Domestic Sales and Services

Southwest Potash Corporation
New York, New York

Potash Mining

Carlsbad, New Mexico

Potassium Chemicals and Chlorine

Vicksburg, Mississippi

International Sales and Service

Latin America, Europe, Africa
South East Asia, South West Asia
Far East and Oceania

AMAX PETROLEUM CORPORATION

Indianapolis, Indiana
LLOYD L. PARKS
President

Amax Petroleum (U.K.) Ltd.

London, England

DAYTON FLY ASH COMPANY, INC.

Dayton, Ohio
BARTON A. THOMAS
President

Sales and Service

Pittsburgh, Pennsylvania
Dayton, Ohio
Terre Haute, Indiana

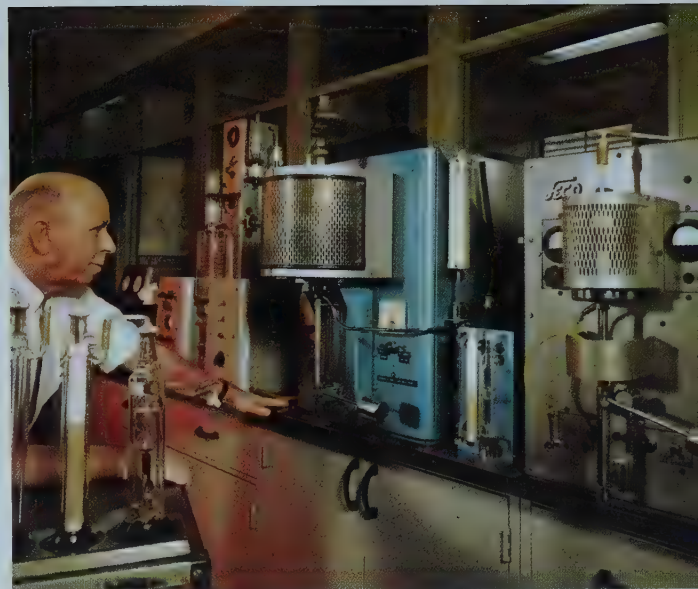
*50%-owned

AMAX molybdenum is mined deep underground, at various levels. The vaulted chamber opposite will be a crusher room for the new 600 Level of the Climax Mine. Three levels are currently being operated at Climax. One of these, the Storke Level, produced in January its 100 millionth ton of ore. The 600 Level, a major capital expenditure, will replace one of the others when its ore has been exhausted.





The new Golden Research Center in Colorado has received an architectural award from the Colorado Structural Clay Products Institute. This laboratory incorporates every modern method of extractive metallurgy.



The Ann Arbor Laboratory in Michigan is the backbone of physical metallurgical and chemical activities for the AMAX Molybdenum and Specialty Metals Group.

AMAX MOLYBDENUM AND SPECIALTY METALS GROUP

The AMAX Molybdenum and Specialty Metals Group, which is responsible for the Company's interest in molybdenum, tungsten, zirconium, hafnium and other specialty metals, had record sales of \$155 million in 1969, up 25% over 1968 sales. A strong commitment to marketing and research provides the basis for the continued growth and profitability of the group.

Molybdenum: AMAX's worldwide molybdenum sales in 1969 set new records. This growth resulted partly from continued high production levels of the world's steel industry, the major customer for molybdenum, and from AMAX's aggressive marketing and technical support effort. The largest percentage of sales growth resulted from purchases by European and Japanese users of molybdenum.

Free World consumption and production of molybdenum exceeded last year's record levels with a 7.3% growth in consumption to 132 million pounds and a 13% increase in production to 148 million pounds. Although 1969 production was ahead of consumption, long-term forecasts indicate the need for more molybdenum (see accompanying charts).

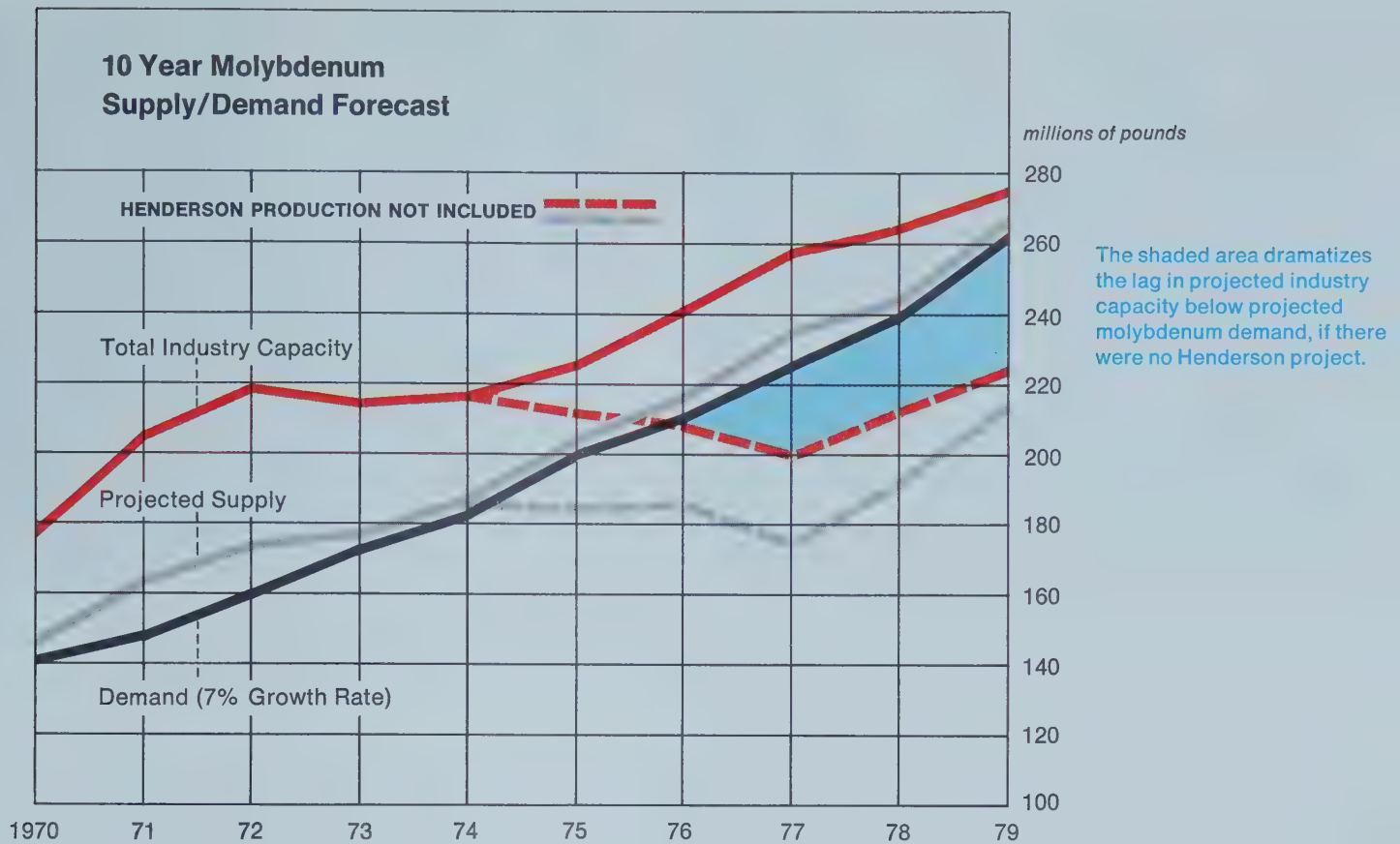
AMAX will be in an excellent position to meet this increased demand from its Henderson Mine in Colorado, which has proven and

probable reserves presently calculated at 303 million tons containing 0.49% molybdenum sulphide. Development work is proceeding according to plan: mine site preparation and the No. 1 shaft were virtually completed in 1969 and the No. 2 shaft and mill site preparation will begin in 1970. The schedule calls for production to begin in 1975. It is expected that annual output at Henderson will build up to 50 million pounds of molybdenum, raising AMAX's yearly product capacity from 60 million to over 100 million pounds.

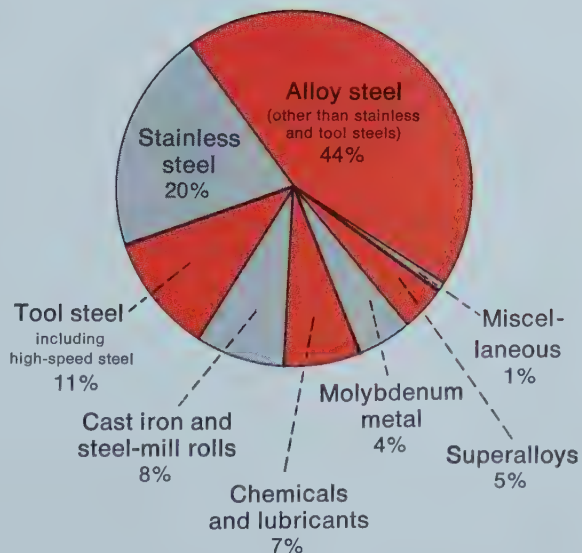
Conversion plants in the United States, The Netherlands and the United Kingdom operated at close to capacity levels in 1969. AMAX's integrated and balanced position enables it to supply markets with products best-suited to particular requirements. In May 1969 prices were raised approximately 5% as a result of increasing costs of labor and materials.

AMAX continues to develop and expand the uses of molybdenum by its research and its technical and marketing skills. The group now has two major research laboratories: the new Golden Research Center in Colorado, which concentrates on extractive metallurgy for maximum recovery of metals from available ores; and the Ann Arbor Research Laboratory in Michigan, which specializes in physical metallurgy and chemical studies of

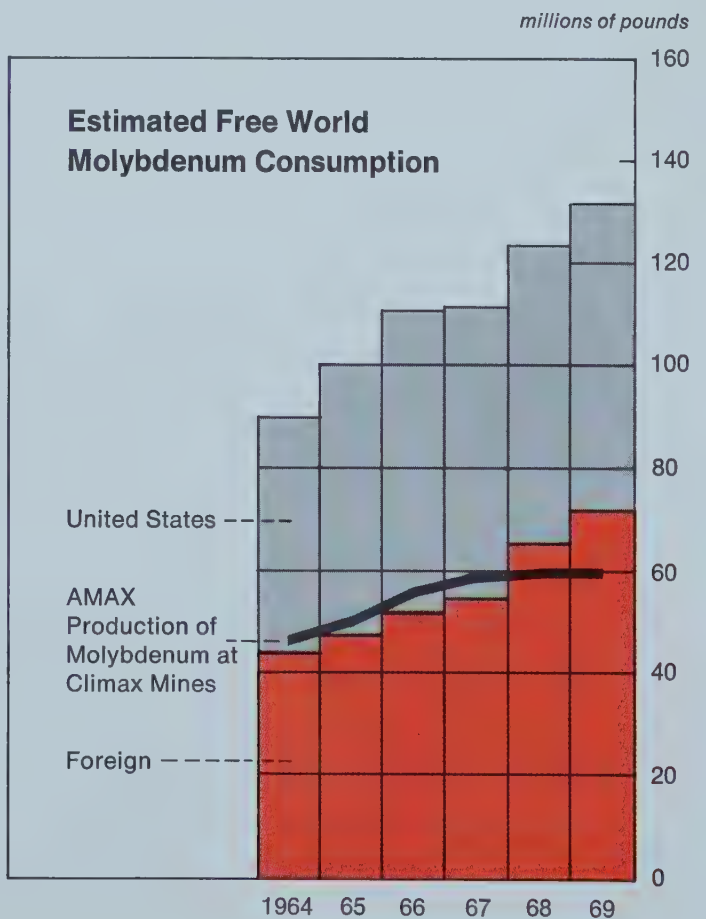
10 Year Molybdenum Supply/Demand Forecast



Estimated Uses of Molybdenum in the Free World by Major Industrial Categories/1969



Estimated Free World Molybdenum Consumption





Pressure vessels for applications from scuba tanks to nuclear power plants and giant hydrocrackers are a major use of molybdenum-containing steels. This nuclear reactor vessel weighing 500 tons is made of a manganese-molybdenum-nickel steel with 0.5% molybdenum.

molybdenum and molybdenum-containing materials. AMAX continues to lead the industry in developing technology, both in basic and applied research and through technical service and assistance to customers in developing new uses of molybdenum.

The largest single use of molybdenum is in constructional alloy steels, used for such items as highly stressed gears, shafts and bolts in machines, automobiles and tractors, and machine tools. An adequate supply, price stability and excellent alloying qualities have caused expansion of the amount of molybdenum used and the range of applications for these steels.

Molybdenum's second most important market is stainless steel. During 1969, new molybdenum-containing grades became standard in the United States. These nickel-free steels had been neglected for some years until it was discovered that the addition of about 1% molybdenum to automotive trim steels markedly improved their performance. A second generation of such steels containing molybdenum is under active development. They will have even better properties and wider uses.

The worldwide expansion of the mining industry provides new opportunities for molybdenum. Primarily through AMAX's efforts, a whole series of abrasion-resistant cast irons containing molybdenum is find-



Aircraft gas turbines depend on nickel-base superalloys strengthened with 3% to 10% molybdenum for critical parts such as blades and rotors. Many other parts of the new Boeing 747 are made of molybdenum-containing steels and alloys.

ing increased usage, particularly in grinding mills, both in the mining and cement industries. The properties of these molybdenum irons, which show greater toughness and better wear resistance, result in significant economic benefits to users.

In the chemical fields, AMAX continues active pigment research. In addition to the well-known molybdenum orange, new research indicates that white molybdenum compounds may serve as corrosive-inhibitive pigments at a cost competitive with the materials now used. In addition to its functional and economic potential, molybdenum has the added attraction of much lower toxicity than traditional materials.

Tungsten: AMAX's tungsten operations reflected the continued high rate of industrial activity. Sales in pounds were up 16% over 1968, while production at the Climax mine, where tungsten is a byproduct, reached a record 2.3 million pounds of tungsten trioxide, also a 16% increase over 1968.

Continuing research at the mine and at the new Golden Research Center is aimed at increased recovery of tungsten. The results of this work should contribute to AMAX's position in the important tungsten market, which includes sintered-carbide cutting tools, tool and die steels, and electrical and electronic applications.



Sewage treatment plants must be expanded and modernized to clean up pollution of the nation's waterways. Stainless steels with 2.5% molybdenum are essential to resist corrosion in some of the widely used systems of treatment.

Zirconium-hafnium-uranium-vanadium: Today almost all zirconium, hafnium and uranium products are used in the development of nuclear power. The world's energy demands, the economy of nuclear power and the availability of nuclear fuel all make inevitable the development of a large-scale nuclear power industry. Nevertheless, this industry is growing more slowly than had been predicted, and sales of these metals fell below 1968 levels, resulting in an operating loss.

AMAX plans to suspend early in 1970 its uranium mining and processing operations in Grand Junction, Colorado. The major factors in this decision were the substantial increase in production costs, a slowdown in new construction of nuclear-powered electrical plants and the existence of an ample national stockpile of processed uranium. Meanwhile, AMAX continues to retain its ore reserves position and to look for favorable deposits for future development.

In zirconium and hafnium, AMAX seeks to improve its manufacturing technology and to develop new alloys for more profitable participation in future nuclear developments. The group also is expanding research and marketing activities to promote non-nuclear applications of zirconium and hafnium to broaden their uses.



David Mayers
Group Vice President
AMAX Molybdenum and
Specialty Metals Group

Nickel: Significant progress was made in 1969 to establish AMAX in the nickel business. AMAX has a worldwide marketing organization for alloying elements and nickel will fit well with other activities of the group.

A joint venture agreement was reached with Société Minière et Métallurgique de Peñarroya S. A. to develop lateritic nickel ore deposits in New Caledonia. This venture is scheduled to begin production by 1975. It is expected to provide AMAX, as its share, 50 million pounds a year of refined nickel plus byproduct cobalt. Further expansion of production facilities could substantially increase the AMAX share.

In 1969 in a separate step in the Company's plans to enter the nickel business, AMAX took an option to purchase the Port Nickel Refinery in Braithwaite, Louisiana. If rehabilitated, this refinery will have an annual capacity of at least 50 million pounds of nickel plus associated byproduct metals.

AMAX is backing up its nickel effort by intensive research and development. As a result, AMAX has an important patent position in a nickel extraction process for lateritic ores. The extractive metallurgical laboratory at Golden intends to begin a pilot plant study of lateritic ores in the near future. Other coordinated research and development programs are under way in France.

The Golden metallurgical laboratory also is conducting an evaluation of refining improvements at Port Nickel.



William Distler, left, project manager at the Henderson Project in Colorado, and Frank Windolph, resident manager at the nearby Urad Mine, pose at Henderson with the Business Week Award. The citation honors AMAX for its environmental control achievements.

Operations and Locations

AMAX MOLYBDENUM AND SPECIALTY METALS GROUP

CLIMAX MOLYBDENUM COMPANY

Greenwich, Connecticut
DAVID MAYERS
Group Vice President

Western Operations

Golden, Colorado
EDWIN J. EISENACH
Vice President

Molybdenum Mining

Climax, Colorado
Henderson, Colorado
Urad, Colorado

Metallurgical Research

Golden, Colorado

Conversion Operations and Technology

Greenwich, Connecticut
HERBERT KAY
Vice President

Langeloth, Pennsylvania
Birmingham, England
Rotterdam, Holland
Stowmarket, England

Administration and Legal

Greenwich, Connecticut
DAVID L. FARLEY, JR.
Vice President

Sales, Market Development and Research

Greenwich, Connecticut
PIERRE GOUSSELAND
Vice President

New York, Chicago, Dayton,
Denver, Detroit, Los Angeles,
Pittsburgh

International Sales and Market Development

Climax Molybdenum S.A.
Paris, France

**Climax Molybdenum
Company Limited**
London, England

Climax Molybdenum Company
Zürich, Switzerland

Climax Molybdenum G.m.b.H.
Düsseldorf, Germany

**Climax Molybdenum
Development Company
(Japan) Limited**
Tokyo, Japan

Minworth Metals, Ltd.
Birmingham, England

International Sales Service Representatives

**Equipamentos Industriais
EISA Ltda.**
São Paulo, Brazil

**Railway & Power Engineering
Corporation Limited**
Montreal, Canada

Nichibeï Boeki Company, Limited
Tokyo, Japan

**Samuel Osborn (South Africa)
(Pty.) Limited**
Johannesburg, South Africa

Metal Distributors Limited
Bombay, Calcutta,
Madras and New Delhi, India

Marketing
Greenwich, Connecticut
RICHARD H. THOMPSON
Vice President

Market Development and Research Group

Greenwich, Connecticut
HARRY W. MEYER
Vice President

NICKEL PROJECT

Greenwich, Connecticut
REUEL E. WARRINER
Vice President

CLIMAX URANIUM COMPANY

Grand Junction, Colorado
A. M. MASTROVICH
General Manager

AMAX SPECIALTY METALS

Greenwich, Connecticut
G. ROBERT COUCH
Vice President

**Fabricating Plant
Sales and Service**
Akron, New York

Zirconium Sponge Plant
Parkersburg, West Virginia

**Metallic Molybdenum
Production**
Coldwater, Michigan

**Metallic Molybdenum
Sales and Service**
Ann Arbor, Michigan

Sales

Greenwich, Connecticut
J. P. McGUIRE
General Sales Manager

Tugs push an empty ore ship up to the loading pier at Port Hedland, Western Australia. Shipments of Mt. Newman iron ore are expected to exceed 6 million tons in the first operating year and are scheduled to reach 12 million tons in the second operating year.





Ore from the primary crusher at the Mt. Newman mine is further crushed and screened at the port for loading aboard ships.

AMAX OVERSEAS MINING ACTIVITIES GROUP

AMAX's mining interests in Australia and Africa make it a significant factor in the production of iron ore and copper. Through subsidiaries and shareholdings AMAX participates in mining and developmental activities in Australia, Zambia, Botswana, South West Africa and South Africa, as follows:

AUSTRALIA:

Mt. Newman Project—25% owned

ZAMBIA:

Roan Selection Trust Limited—42% owned

BOTSWANA:

Botswana RST—30% owned

SOUTH WEST AFRICA:

Tsumeb Corporation Limited—29% owned

SOUTH AFRICA:

O'okiep Copper Company—18% owned

AMAX Iron Ore Corporation: Through this wholly-owned subsidiary AMAX is a 25% participant in the Mt. Newman Project in Western Australia, one of the world's newest and largest sources of iron ore. Drilling continues to increase Mt. Whaleback proven reserves, which are now calculated at 500 million long tons of high grade ore with a potential of more than 1 billion long tons. In addition, leases held by the Mt. Newman joint venturers contain other iron ore deposits not yet tested by exploration.

Shipments from Mt. Newman began April 1, 1969 on schedule. Actually, construction of the mammoth project—including mine, railroad and port facilities—had been com-

pleted ahead of schedule and at less than estimated cost. Shipments were 4 million long tons in 1969 and are expected to reach 12 million long tons in 1970. New markets for the ore are requiring rapid expansion of the project. Annual capacity is already being increased to 19 million long tons by 1971 and plans call for 30-million-long-ton capacity by 1975. Mt. Newman began to contribute to AMAX earnings in 1969. The contribution will grow as Mt. Newman expands.

AMAX Mineral Sales, Inc.: This wholly-owned subsidiary develops markets for the entire output of the Mt. Newman iron mine, excepting ore for sales in Australia. Before the first shipment of ore, the Mt. Newman venturers had contracts with Japanese and Australian steel mills for over 215 million long tons, worth more than \$1.5 billion, a record for pre-production orders for a mine of any type anywhere in the world.

Because of the quality of the ore and the relative proximity of the mine, Japan is a natural market for Mt. Newman. Japan is the world's largest shipbuilder and the second largest manufacturer of automobiles. Its steel industry, heavily dependent on imported ores, doubled output in five years to 82 million long tons in 1969, with a forecast exceeding 100 million long tons in 1971. The ready acceptance of Mt. Newman ore led to new contracts in 1969 for an additional 60 million long tons over an 11-year period. This



The two Prain shafts (named for Sir Ronald L. Prain, RST chairman) at RST's Mufulira mine in Zambia are part of an expansion program to raise the mine's copper production from 162,000 tons to 187,000 tons per year.

raised Japanese commitments to 207 million long tons.

European mills traditionally draw their imported ore from countries bordering the Atlantic Ocean and the North Sea. Expansion of steel capacity and increased use of lump ore is expected to open the European markets to Mt. Newman ore. During 1969 initial shipments were made to European customers.

Roan Selection Trust Limited: On August 11, 1969 President Kenneth Kaunda of Zambia invited RST and other mining companies to negotiate the sale to the Government of 51% of their Zambian operating companies. The President also announced that the special mining grants to the companies, formerly held in perpetuity, would be converted into long-term mining leases, and that the royalty and export taxes would be replaced by a single mineral tax of 51% of profits.

According to the agreement completed in December, 1969 (subject to ratification by RST shareholders), the RST operating companies will be merged into a Zambian company, Roan Consolidated Mines Limited (RCM). The Government will own 51% of RCM, RST 36¾%, and minority owners the balance. RST will receive as compensation U.S. dollar bonds totaling approximately \$90 million, guaranteed by the Zambian Government, payable in 16 equal semi-annual installments, and earning interest at 6% per annum. RST will have a 10-year management contract

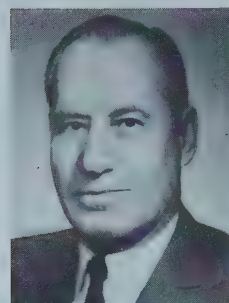
to operate the mines and act as sales agent. RST will be registered outside Zambia and will be free to transfer assets previously subjected to Zambian exchange control. RCM dividends will not be subject to limitation by exchange control.

As to operations in 1969, RST for the second consecutive year set records for copper production, sales and profits. Shipments were more than 350,000 long tons, including copper in stockpiled concentrates that were liquidated by year-end. Revenues were buoyed by the high price of copper. Dividends advanced to \$0.77 per share from \$0.54 in 1968. Full production from the small, open-pit copper mine at Kalengwa was delayed because of late completion of a new 200-mile road to the Copperbelt. Pilot work continues at the Baluba property.

Botswana RST: AMAX has a 30.4% interest in BRST, which has a 61% interest in a copper-nickel prospect held by Bamangwato Concessions Limited (BCL). RST also has an interest of approximately 30% in BRST. If the prospect goes into production, the BRST interest in BCL drops to 51%, due to Botswana Government participation. BCL has reported proven ore reserves of 31.8 million short tons grading 1.32% copper and 1.25% nickel that could be mined to produce copper-nickel matte, yielding 15,800 long tons of copper and 13,700 long tons of nickel per year. The Botswana Government has applied to the



Guests at Tokyo dinner view Mt. Newman opening on closed-circuit TV by means of communications satellites. Similar functions took place in Australia, New York and London.



John Payne, Jr.
Group Vice President
AMAX Overseas Mining
Activities Group

Operations and Locations

AMAX OVERSEAS MINING ACTIVITIES GROUP

New York, New York
JOHN PAYNE, JR.
Group Vice President

AMAX Iron Ore Corporation

New York, New York
Perth, Australia

AMAX Mineral Sales Corporation

New York, New York

AMAX Pacific Sales Corporation

New York, New York

Investments in Other Companies

Botswana RST Limited
(30% equity)
Botswana

**O'okiep Copper
Company Limited**
(18% equity)
South Africa

**Roan Selection
Trust Limited**
(42% equity)
Zambia

**Tsumeb Corporation
Limited**
(29% equity)
South West Africa

World Bank and other lenders to finance approximately \$50 million for infrastructure to support the project, and the International Development Association has approved a \$2.5 million credit for preliminary infrastructure design. Cost of the project is put at \$100 million, in addition to the facilities to be financed by Government. BCL is now negotiating for the sale of the matte and for the balance of the financing.

Tsumeb Corporation Limited: In 1969 Tsumeb produced about 31,000 short tons of blister copper and 76,000 short tons of refined lead. Deeper mine workings have increased costs but in 1969 the increases were partly offset by strong metal prices. Dividends paid were \$5.075 per share, down from \$5.425 in 1968.

O'okiep Copper Company: Production was about 37,000 short tons of blister copper. The small but progressive reduction in the grade of ore mined that has been noted for several years continued to increase costs, but this was offset in 1969 by high copper prices. Dividends paid were \$15.40 per share, up from \$14.

John Payne, Jr.

Net sales in 1969 were a record \$753,490,000, an increase of 32%, as a result of expanded operations in aluminum, molybdenum and base metals as well as higher metal prices, particularly copper. This compares with sales of \$570,590,000 in 1968. The higher sales also reflected shipments of Mt. Newman iron ore beginning in April and shipments of coal by Ayrshire Collieries for November and December, following the acquisition of that company on October 31. The increase in sales is discussed by major product category on pages 14 to 36 and a chart showing sales by operating groups is presented on page 9.

Net earnings amounted to a record \$69,090,000 or \$2.92 a common share in 1969, compared to \$59,770,000, or \$2.56 a common share, before extraordinary items, and \$67,350,000, or \$2.89 a common share, including extraordinary items, in 1968. There were no extraordinary items in 1969. The extraordinary items in 1968 are explained in note 3, page 46.

Earnings from operations were \$72,640,000, before taxes, in 1969, a 31% increase over the \$55,500,000 in 1968. The major factors contributing to this improvement were increased shipments of molybdenum and aluminum and the commence-

ment of shipments of iron ore mentioned above. Metal prices continued strong, but the price of potash suffered from oversupply.

Earnings from other sources, before taxes and after deduction of interest paid, amounted to \$23,870,000 in 1969, an increase of 12% over the \$21,400,000 of earnings in 1968. Dividends received from other companies in which AMAX has minority interests were \$22,230,000, an increase of \$2,180,000 over 1968, as shown in the schedule on page 39.

The Company's equity in these companies' 1969 undistributed earnings is estimated to be 79¢ per AMAX common share, compared to 91¢ a share in 1968.

Interest income and net profit on investments totaled \$12,450,000 in 1969, an increase of \$2,600,000 over 1968. Interest paid in 1969 increased \$2,310,000 over 1968 to \$10,810,000 due to the larger amount of notes outstanding.

Dividends declared by AMAX totaled \$32,450,000 in 1969 compared to \$29,770,000 in 1968. Dividends on common stock were \$1.33 per share compared to \$1.27 per share in the preceding year. The quarterly dividend rate on common stock was increased approximately 10% to 35¢ per share in

July, following a three-for-two split of the common shares. Dividends on the preferred shares redeemed September 1 amounted to \$3.19 per share and \$1.33 per share was declared on the new preferred shares issued October 31.

Cash and short-term investments increased by \$3,660,000 during 1969 to a total of \$138,980,000.

Accounts receivable, less allowance for doubtful accounts, amounted to \$126,380,000 at year-end, compared to \$97,490,000 at the end of 1968. This increase of \$28,890,000 amounts to 30%, slightly less than the 32% increase in sales.

Inventories at December 31, 1969 were \$127,590,000, compared to \$133,810,000 at the end of 1968. Inventories are summarized on page 46 (Note 5).

Working capital, the excess of total current assets over total current liabilities, amounted to \$274,460,000 at the end of 1969, an increase of \$9,280,000 during the year.

Investments in AMAX Credit Corporation and in 50%-owned companies increased \$6,520,000 dur-

ing the year to \$17,400,000 at year-end. A summary of these investments is shown on page 46 (Note 6). The increase resulted primarily from a 50% interest in a coal company included in the acquisition of Ayrshire Collieries Corporation and the acquisition of a 50% interest in an aluminum fabricating company in Mexico.

Investments in other companies in which AMAX holds minority interests amounted to \$54,790,000 at the end of 1969, compared to \$50,750,000 at the end of the previous year. These investments are carried at cost as shown in the table on page 40. The market value of the listed securities exceeded costs by more than \$153 million, compared with an excess of market over cost at the end of 1968 of \$124 million. The only material change in investments during the year was the purchase of 544,987 shares of North Kalgurli (1912) Ltd.

Capital stock issued at year-end 1969 consisted of 23,669,333 common shares (including 17,205 shares held in treasury), an increase of 8,163,939 shares reflecting primarily the 3-for-2 stock split in July, and 790,891 shares of the newly created Series A Convertible Preferred Stock which were issued at the end of October 1969 in the merger

**DIVIDENDS FROM
AMAX INVESTMENTS
IN OTHER COMPANIES**

		(In Thousands)	
In Africa		1969	1968
Roan Selection Trust Limited		\$14,280	\$10,110
Tsumeb Corporation Limited		5,140	5,510
O'okiep Copper Company Limited		2,400	2,270
Palabora Holdings Limited .		—	1,820
Miscellaneous		410	340
Total before U.S. tax		\$22,230	\$20,050

**SOURCE AND
DISPOSITION
OF FUNDS**

		(In Millions)	
Sources:		1969	1968
Net earnings		\$ 69.1	\$ 67.4
Depreciation and depletion		27.2	25.9
Net additions to long-term borrowings		11.3	33.0
Deferred Federal income taxes		13.1	4.9
Estimated market value of Series A Preferred Stock issued in connection with Ayrshire purchase....		60.5	—
Other increases		9.2	1.0
		190.4	132.2
Dispositions:			
Additions to property, plant and equipment, net of retirements		138.0*	76.5
Dividends on common and preferred stock		32.5	29.8
Increase (decrease) in investments		10.6	(.4)
		181.1	105.9
Increase in working capital		9.3	26.3
Working capital January 1		265.2	238.9
Working capital December 31		\$274.5	\$265.2

*Includes \$76.2 million of fixed assets acquired in the purchase of Ayrshire Collieries Corporation.

AMAX INVESTMENTS IN OTHER COMPANIES, at December 31, 1969

(In Thousands)				
	<u>Number of Shares</u>	<u>AMAX Equity</u>	<u>Cost</u>	<u>Market Value(1)</u>
Listed securities				
Roan Selection Trust Limited	18,606,958*	42%	\$25,100	\$123,270
O'okiep Copper Company Limited	180,969	18	450	19,000
Copper Range Company	376,792	17	8,650	25,480
Canada Tungsten Mining Corporation, Ltd.	1,750,000	35	1,210	2,710
Botswana RST Ltd.	952,148	30	2,890	23,330
Kawecki Berylco Industries, Inc.	185,851	6	6,100	3,530
North Kalgurli (1912) Ltd.	544,987	10	4,800	5,660
Other	—	—	350	250
Total listed			<u>\$49,550</u>	<u>\$203,230</u>
Unlisted securities				
Tsumeb Corporation Limited (2)	1,167,250	29	840	
Canada Tungsten Mining Corporation, Ltd.	(Debentures)		1,720	
Minera Frisco, S.A.	(Loan & Equity)		780	
Other			1,900	
Total unlisted			<u>5,240</u>	
Total investments in other companies			<u>\$54,790</u>	

(1) The Company makes no representation that these values, which represent the closing quotations on December 31, 1969, could be realized in the event of a sale of these holdings. The estimated total market value of unlisted securities is substantially in excess of cost.

(2) While there was no quoted market price for Tsumeb Corporation shares, that corporation's earnings for its fiscal year ended June 30, 1969 of \$15,290,000 (\$3.82 per share) indicate that the Company's holdings in Tsumeb have a value substantially in excess of cost.

*Reflects a 2-for-1 stock split in 1969.



H. A. Sawyer, Jr.
Group Vice President-
Finance

of Ayrshire Collieries Corporation into AMAX. The outstanding 4¼ % Convertible Preferred Stock was redeemed on September 1, 1969. There were 30,021 holders of common and 598 holders of preferred shares of record on December 31, 1969.

The capital surplus account, including additions arising from the merger of Ayrshire Collieries Corporation and the writedown of the common stock account to its \$1 par value, increased to \$168,100,000 at the end of 1969 from \$9,790,000 at December 31, 1968. Analyses of the capital stock and capital surplus accounts are given on page 47 (Note 10).

Capital expenditures during 1969 for property, plant and equipment, amounted to \$63,040,000, exclusive of \$76,240,000 representing the fixed assets of Ayrshire Collieries Corporation which was acquired on October 31. Major expenditures were made to expand and modernize facilities for the production of iron ore, molybdenum, aluminum and base metals. For the five-year period ended December 31, 1969 capital expenditures were approximately \$400 million and the Company plans to double this amount during the next five years.

Foreign net assets, excluding investments in other companies as shown on page 40, amounted to \$94

million at December 31, 1969, roughly the same as December 31, 1968. Approximately 33% of this investment is located in Canada, 30% in Australia, and 27% in western European countries.

Long-term debt, at the end of 1969, increased by \$11,340,000 to \$201,210,000. This increase represents the \$13 million liability for Ayrshire Collieries Corporation's notes assumed upon merger with that company, additional borrowings of \$7 million for the Mt. Newman Iron Ore project and \$1,870,000 for various other projects. The above increases were partially offset by the payment of \$10,530,000 on notes that became due during the year.

Shareholders' equity at year-end was \$553,080,000, an increase of \$97,850,000 over December 31, 1968. Approximately \$60 million of this increase resulted from the merger of Ayrshire Collieries Corporation. The balance of the increase represents the excess of 1969 net earnings over dividends declared in 1969.

A handwritten signature in dark ink, appearing to read "H. A. Sawyer, Jr.", written in a cursive style.

TEN YEAR SUMMARY

		<u>1969</u>	<u>1968</u>	<u>1967</u>
For the				
Year				
(in millions)				
	Net sales of products and services . .	\$753.5	\$570.6	\$478.3
	Net sales by agency businesses ⁽¹⁾ . .	—	—	—
	Total net sales	<u>\$753.5</u>	<u>\$570.6</u>	<u>\$478.3</u>
	Total earnings excl. dividend income	\$ 74.3	\$ 64.4	\$ 49.5
	Dividend income	22.2	20.1	19.0
	Federal and foreign income taxes . .	(27.4)	(17.1)	(12.2)
	Net earnings	<u>\$ 69.1</u>	<u>\$ 67.4⁽²⁾</u>	<u>\$ 56.3⁽³⁾</u>
	Dividends declared:			
	On preferred stock	\$ 1.2	\$ 0.4	\$ 0.9
	On common stock	31.3	29.4	28.6
	Total	<u>\$ 32.5</u>	<u>\$ 29.8</u>	<u>\$ 29.5</u>
	Per share of common stock ⁽⁵⁾			
	Net earnings	\$ 2.92	\$ 2.89 ⁽²⁾	\$ 2.46 ⁽³⁾
	Dividends	1.33	1.27	1.27
	Capital expenditures	\$ 63.0 ⁽⁶⁾	\$101.2	\$ 80.9
	Depreciation and depletion	27.2	25.9	21.0
At the				
Year-End				
(in millions)				
	Working capital	\$274.5	\$265.2	\$238.9
	Investments (at book amounts):			
	Investments in Africa	29.8	29.8	28.4
	Other investments	42.4	31.8	33.7
	Property, plant and equipment (net)	439.5	328.7	278.1
	Long-term debt	(201.2)	(189.9)	(156.9)
	Other liabilities less other assets . .	(31.9)	(10.4)	(6.1)
	Shareholders' equity	<u>\$553.1</u>	<u>\$455.2</u>	<u>\$416.1</u>

(1) The agency businesses were sold to Roan Selection Trust Limited as of December 31, 1963.

(2) Includes extraordinary items: gain of \$13,540,000, 59¢ per share, on sale of interest in Palabora Mining Company, less loss of \$5,960,000, 26¢ per share, on write-off of molybdenum oxide plant.

(3) Includes nonrecurring gain on sale of oil properties: \$3,510,000 or 15¢ per share.

(4) Includes nonrecurring gain of \$3,000,000 or 14¢ per share, on sale of sales agency businesses, credited to surplus in 1963.

(5) The net earnings and dividends per share of common stock have been adjusted to give effect to the 3-for-2 common stock split in 1969.

(6) Excludes \$76.2 million of fixed assets acquired in the purchase of Ayrshire Collieries Corporation.

<u>1966</u>	<u>1965</u>	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>1961</u>	<u>1960</u>
\$572.6	\$475.0	\$438.2	\$381.9	\$327.2	\$347.4	\$367.7
—	—	—	325.0	315.0	304.0	384.0
<u>\$572.6</u>	<u>\$475.0</u>	<u>\$438.2</u>	<u>\$706.9</u>	<u>\$642.2</u>	<u>\$651.4</u>	<u>\$751.7</u>
\$ 62.0	\$ 58.9	\$ 45.3	\$ 45.9	\$ 34.6	\$ 45.3	\$ 52.7
20.9	20.8	11.7	10.5	8.1	7.4	10.7
(17.3)	(19.6)	(11.4)	(15.6)	(14.6)	(15.5)	(22.1)
<u>\$ 65.6</u>	<u>\$ 60.1</u>	<u>\$ 45.6</u>	<u>\$ 40.8⁽⁴⁾</u>	<u>\$ 28.1</u>	<u>\$ 37.2</u>	<u>\$ 41.3</u>
\$ 1.4	\$ 1.8	\$ 1.8	\$ 1.8	\$ 1.8	\$ 2.0	\$ 2.0
28.1	24.3	23.1	20.1	20.0	19.9	17.7
<u>\$ 29.5</u>	<u>\$ 26.1</u>	<u>\$ 24.9</u>	<u>\$ 21.9</u>	<u>\$ 21.8</u>	<u>\$ 21.9</u>	<u>\$ 19.7</u>
\$ 2.90	\$ 2.67	\$ 2.02	\$ 1.81 ⁽⁴⁾	\$ 1.23	\$ 1.65	\$ 1.85
1.27	1.12	1.07	.93	.93	.93	.83
\$ 78.4	\$ 71.4	\$ 32.5	\$ 43.3	\$ 17.3	\$ 22.3	\$ 16.1
22.2	17.5	16.0	14.7	11.4	10.1	11.2
\$216.9	\$211.0	\$188.2	\$175.1	\$130.2	\$133.4	\$134.2
30.9	32.8	32.5	31.3	25.5	25.3	25.0
25.7	20.6	23.6	22.5	21.5	19.5	15.0
249.2	198.1	151.2	132.3	105.6	101.6	94.1
(125.5)	(108.0)	(81.4)	(72.9)	(10.0)	(15.3)	(15.2)
(9.3)	(4.5)	(0.2)	2.7	(3.6)	(1.9)	(2.9)
<u>\$387.9</u>	<u>\$350.0</u>	<u>\$313.9</u>	<u>\$291.0</u>	<u>\$269.2</u>	<u>\$262.6</u>	<u>\$250.2</u>

CONSOLIDATED STATEMENT OF CURRENT AND RETAINED EARNINGS

For the Years Ended December 31, 1969 and 1968

	<u>1969</u>	<u>1968</u>
Net sales	\$753,490,000	\$570,590,000
Cost of sales, exclusive of items shown separately	591,250,000	436,840,000
Depreciation and depletion (Note 7)	27,210,000	25,870,000
Selling and general expenses	48,830,000	39,940,000
Taxes other than Federal and foreign income taxes	13,560,000	12,440,000
Total costs applicable to sales	680,850,000	515,090,000
Earnings from operations	72,640,000	55,500,000
Dividend income (page 39)	22,230,000	20,050,000
Interest income and net profit on investments	12,450,000	9,850,000
Interest on notes payable	(10,810,000)	(8,500,000)
Earnings from other sources	23,870,000	21,400,000
Earnings before Federal and foreign income taxes and extraordinary items	96,510,000	76,900,000
Federal and foreign income taxes (Note 4) (deferred 1969, \$5,950,000; 1968, \$6,360,000)	27,420,000	17,130,000
Earnings before extraordinary items	69,090,000	59,770,000
Extraordinary items, net of applicable income tax (Note 3)	—	7,580,000
Net earnings	69,090,000	67,350,000
Deduct dividends declared for the year		
Preferred stock	1,150,000	430,000
Common stock	31,300,000	29,340,000
Amount added to retained earnings for the year	36,640,000	37,580,000
Retained earnings January 1	324,420,000	286,840,000
Retained earnings December 31	\$361,060,000	\$324,420,000
Per common share*		
Earnings before extraordinary items	\$2.92	\$2.56
Extraordinary items, net of applicable income tax	—	.33
Net earnings	\$2.92	\$2.89
Dividends declared	\$1.33	\$1.27

*The 1968 net earnings and dividends per share of common stock have been adjusted to give effect to the 3-for-2 common stock split in 1969.

The notes on pages 46-48 are an integral part of these financial statements.

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

AMERICAN METAL CLIMAX, INC.
and its Consolidated Subsidiaries

December 31, 1969 and 1968

	<u>1969</u>	<u>1968</u>
ASSETS		
Current assets		
Cash	\$ 18,670,000	\$ 11,430,000
Time deposits and certificates of deposit	14,060,000	53,120,000
Short-term marketable securities, at cost (approximates market)	106,250,000	70,770,000
Accounts receivable, less allowance for doubtful accounts (1969, \$3,330,000, 1968, \$2,480,000)	126,380,000	97,490,000
Inventories (Note 5)	127,590,000	133,810,000
Prepaid expenses and other current assets	9,200,000	6,770,000
Total current assets	402,150,000	373,390,000
Long-term receivables, loans, and charges	27,110,000	18,620,000
Investments in AMAX Credit Corporation and 50%-owned companies (Note 6)	17,400,000	10,880,000
Investments in other companies (page 40)	54,790,000	50,750,000
Property, plant and equipment, at cost, less accumulated depreciation and depletion (Note 7)	439,470,000	328,700,000
TOTAL ASSETS	\$940,920,000	\$782,340,000
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities		
Accounts payable and accrued liabilities	\$ 87,920,000	\$ 70,060,000
Notes payable (Note 8)	12,590,000	9,700,000
Federal and foreign income taxes	16,900,000	11,180,000
Production payments, unearned treatment charges, etc.	10,280,000	17,270,000
Total current liabilities	127,690,000	108,210,000
Notes payable (Note 8)	201,210,000	189,870,000
Deferred income taxes, reserves, etc. (Note 9)	58,940,000	29,030,000
Total liabilities	387,840,000	327,110,000
Shareholders' equity (Notes 10/12)		
Preferred stock	790,000	10,270,000
Common stock	23,670,000	111,190,000
Capital surplus	168,100,000	9,790,000
Retained earnings	361,060,000	324,420,000
Cost of treasury stock	(540,000)	(440,000)
Total shareholders' equity	553,080,000	455,230,000
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	\$940,920,000	\$782,340,000

The notes on pages 46-48 are an integral part of these financial statements.

NOTES TO FINANCIAL STATEMENTS

1. FINANCIAL STATEMENTS PRESENTATION:

The consolidated financial statements include the accounts of all subsidiaries in which a voting control of 51% or more is owned, except AMAX Credit Corporation, a wholly-owned finance subsidiary. They also include the Company's portion of AMAX-Homestake Lead Tollers, a 50% partnership. On October 31, 1969 the Company acquired, in exchange for 790,891 shares of its Series A Convertible Preferred Stock (see Note 10), all of the outstanding capital stock of Ayrshire Collieries Corporation. The transaction has been accounted for as a purchase and accordingly the net assets and operations of Ayrshire have been included in the accompanying financial statements since that date.

2. EXPLORATION AND GENERAL RESEARCH:

Exploration and General Research expenditures amounted to \$11,880,000 and \$13,570,000 in 1969 and 1968 respectively. Mine exploration expenditures increased substantially in 1969, but the increase was more than offset by the reduction in oil and gas exploration following the sale of most of the Company's oil and gas properties in 1967 and 1968. In accordance with the Company's established policy, the charge to cost of sales for exploration is reduced by expenditures previously charged off on properties which currently become exploitable. There were no such reductions in 1969. In 1968, net of these reductions which were capitalized, exploration and research expenses were \$12,330,000.

3. EXTRAORDINARY ITEMS:

The extraordinary items in 1968 consist of the following: gain of \$13,540,000 on sale of interest in Palabora Mining Company after deducting applicable Federal and

foreign taxes of \$5,140,000, less loss of \$5,960,000 on write-off of molybdenum oxide plant after deducting applicable Federal income tax effect of \$6,660,000.

4. INVESTMENT CREDIT:

The investment credit is being accounted for as a reduction of Federal income taxes in the year in which the credit originated. The credit amounted to \$1,600,000 in 1969 and \$3,430,000 in 1968. The change in the tax regulations eliminated the investment credit on transactions entered into after April 18, 1969.

5. INVENTORIES:

	<u>1969</u>	<u>1968</u>
Metals refined and in-process at the lower of cost (primarily last-in, first-out) or market (at December 31 market quotations: 1969, \$101,270,000; 1968, \$112,750,000)	\$ 49,290,000	\$ 70,920,000
Metal fabricated products, etc., at the lower of cost (first-in, first-out) or market	51,740,000	39,520,000
Ores, concentrates and chemicals, at the lower of average cost or market	11,080,000	14,430,000
Operating supplies, at average cost, less reserves	15,480,000	8,940,000
	<u>\$127,590,000</u>	<u>\$133,810,000</u>

6. INVESTMENTS IN AMAX CREDIT CORPORATION AND 50%-OWNED COMPANIES:

	<u>1969</u>	<u>1968</u>
AMAX Credit Corporation	\$ 2,260,000	\$ 2,150,000
Intalco Aluminum Smelter Operating Companies	6,760,000	6,230,000
Mackamax Aluminium Limited ..	880,000	940,000
Decatur Aluminum Inc.	970,000	840,000
Alumex S.A. de C.V.	1,760,000	—
Kawneer de Mexico, S.A. de C.V.	—	690,000
Kawneer Jamaica Ltd.	50,000	30,000
Gibraltar Coal Corporation ...	4,420,000	—
International Calciners, Inc. ...	300,000	—
	<u>\$17,400,000</u>	<u>\$10,880,000</u>

The Company's investment in AMAX Credit Corporation and 50%-owned companies is carried at its equity in the net assets of these companies.

7. PROPERTY, PLANT AND EQUIPMENT:

	<u>1969</u>	<u>1968</u>
Mining properties and milling plants	\$391,320,000	\$231,820,000
Smelters and refineries	167,420,000	159,690,000
Oil and gas properties	9,460,000	9,160,000
Metal fabricating plants	86,960,000	80,900,000
Chemical plant	9,690,000	9,100,000
Miscellaneous property and equipment	23,160,000	19,240,000
Total Cost	688,010,000	509,910,000
Less accumulated depreciation (1969, \$222,250,000; 1968, \$166,760,000) and depletion	248,540,000	181,210,000
Net book value	\$439,470,000	\$328,700,000
Charges to operations for the year:		
Depreciation	\$ 23,700,000	\$ 21,220,000
Depletion	3,510,000	4,650,000
	<u>\$ 27,210,000</u>	<u>\$ 25,870,000</u>

Depreciation and depletion are computed primarily on the straight-line and unit of production methods, respectively.

8. NOTES PAYABLE:

	1969	1968
4½ %, payable 1970 to 1988	\$ 57,000,000	\$ 60,000,000
6% to 7%, payable 1970 to 1975 (Secured by properties)	35,000,000	28,000,000
4.85%, payable 1970 to 1986	24,380,000	25,320,000
6¼ %, payable 1972 to 1982	23,460,000	25,000,000
5½ %, payable 1970 to 1987	21,690,000	22,440,000
6%, payable 1970 to 1974 ..	11,780,000	13,750,000
5%, payable 1970 to 1975 ..	16,000,000	—
4.85%, payable 1970 to 1977 ..	6,110,000	6,370,000
3½ %, payable 1970 to 1971 ..	4,500,000	5,250,000
4¾ %, payable 1970 to 1977 ..	4,160,000	4,580,000
Other notes payable	9,720,000	8,860,000
	<u>213,800,000</u>	<u>199,570,000</u>
Less amounts due within one year	12,590,000	9,700,000
Net long-term	<u>\$201,210,000</u>	<u>\$189,870,000</u>

The 1969 long-term notes are payable as follows:

1971	\$ 17,920,000
1972	24,070,000
1973	24,140,000
1974	23,810,000
1975	15,690,000
1976-1990	95,580,000
	<u>\$201,210,000</u>

9. DEFERRED INCOME TAXES, RESERVES, ETC.:

	1969	1968
Deferred Federal income taxes	\$35,610,000	\$22,480,000
Miscellaneous reserves and noncurrent liabilities	9,370,000	6,550,000
Equipment purchase contracts	13,960,000	—
	<u>\$58,940,000</u>	<u>\$29,030,000</u>

10. SHAREHOLDERS' EQUITY:

On July 31, 1969 the shareholders approved an increase in authorized common shares, \$1 par value, from 20,000,000 to 35,000,000 and a change in the Company's authorized preferred shares from 1,000,000 shares, \$100 par value, to 5,000,000 shares, \$1 par value. They also approved a 3-for-2 common stock split.

AMAX's board of directors authorized the transfer from the common stock account to capital surplus account of the amount in excess of the par value of the common shares issued on or before September 30, 1969.

The 4¼ % Cumulative Convertible Preferred stock was redeemed September 1, 1969. Under the terms of the merger of Ayrshire Corporation into AMAX on October 31, 1969, an aggregate of 790,891 shares of Series A Convertible Preferred stock, par value \$1 per share, was issued to Ayrshire's shareholders in lieu of their holdings in Ayrshire at the rate of one new preferred share of AMAX for one common share of Ayrshire. Each share of the Series A Convertible Preferred stock is entitled to one vote on all matters submitted to the shareholders, is convertible into 2.43351 shares of AMAX common stock and is entitled to a preferred cumulative annual dividend of \$4.00 from November 1, 1969 until November 30, 1971 and \$5.25 thereafter. The shares are not redeemable for seven years, but will be redeemable at \$105 commencing September 1, 1976; the redemption price will then be reduced by \$1.25 bi-annually until September 1, 1984, at which date it will become and remain at \$100. Upon voluntary liquidation holders of Series A Convertible Preferred stock would be entitled to receive a liquidation preference of \$105 per share for the first seven years and thereafter an amount equal to the then current redemption price; upon involuntary liquidation such holders would be entitled to receive \$100 per share.

Capital surplus was credited with the excess of the estimated market value over the par value of the 790,891 Series A Convertible Preferred shares described above.

Analyses of changes in the capital stock and capital surplus accounts follow:

	Preferred Stock		Common Stock		Capital Surplus
	Number of Shares	Amount	Number of Shares	Amount	
Balances at January 1, 1968	140,259	\$14,025,900	15,372,557	\$107,396,367	\$ 8,460,950
Conversion of 4¼ % Preferred stock in 1968	(37,610)	(3,761,000)	94,008	3,760,320	(125)
Stock options exercised in 1968			38,829	38,829	1,333,004
Balances at December 31, 1968	102,649	10,264,900	15,505,394	111,195,516	9,793,829
Conversion and redemption of 4¼ % Preferred stock in 1969	(102,649)	(10,264,900)	261,199	10,015,480	(10,602)
3-for-2 common stock split			7,873,007	7,873,007	(7,873,007)
Write-down of common stock to \$1 par value				(105,444,403)	105,444,403
Issuance of Series A Preferred stock, par value \$1 per share, to Ayrshire's shareholders	790,891	790,891			59,712,271
Stock options exercised in 1969			29,733	29,733	1,033,928
Balances at December 31, 1969	<u>790,891</u>	<u>\$ 790,891</u>	<u>23,669,333</u>	<u>\$ 23,669,333</u>	<u>\$168,100,822</u>

Common stock balances at January 1, 1968 and December 31, 1968 and 1969 include treasury shares of 22,200, 15,100 and 17,205 respectively.

11. DIVIDEND LIMITATIONS:

Agreements entered into in connection with the notes payable impose restrictions (based on income and working capital) on the payments of cash dividends and the reacquisition of the Company's capital stock. At December 31, 1969 approximately \$250,000,000 of retained earnings were free of the restrictions based on income, and working capital exceeded requirements by approximately \$122,000,000.

12. STOCK OPTION PLANS:

At December 31, 1969 options were outstanding to purchase 231,402 shares of the Company's common stock under a Qualified Stock Option Plan adopted by the shareholders in 1964. Such options may be granted during the 10-year period to May 1974, at a price not less than 100% of the market value on the granting date, exercisable within five years from that date.

Changes in stock options during 1969 were as follows:

	Number of Option Shares	
	Price Range Per Share	Unexercised Available for Future Grants
Balance at January 1.	\$16.40-\$30.21	371,967 207,600
Options terminated . .	28.71- 29.17	(82,250) 82,250
Options exercised . . .	16.40- 29.17	(58,315) —
Balance at		
December 31	21.96- 30.21	<u>231,402</u> <u>289,850</u>

The options are all exercisable and expire at various dates to 1973, but no option granted may be exercised by any optionee while he holds any unexercised stock option previously granted at a higher price. The above table has been adjusted to give effect to the 3-for-2 common stock split in 1969.

13. EMPLOYEE PENSION PLANS:

The Company and its subsidiaries have a number of pension plans covering substantially all of their employees. The charge to income for pension costs was \$5,860,000 for 1969 and \$5,300,000 for 1968, which includes as to certain of the plans, amortization of prior service cost over a period of 30 years or less. The Company's policy is to fund pension costs as accrued.

14. GUARANTEES:

At December 31, 1969 the Company and its consolidated subsidiaries were contingent guarantors of notes and other liabilities aggregating \$34,000,000, principally in connection with the 50%-AMAX-owned Intalco Aluminum Plant.

LYBRAND, ROSS BROS. & MONTGOMERY

CERTIFIED PUBLIC ACCOUNTANTS

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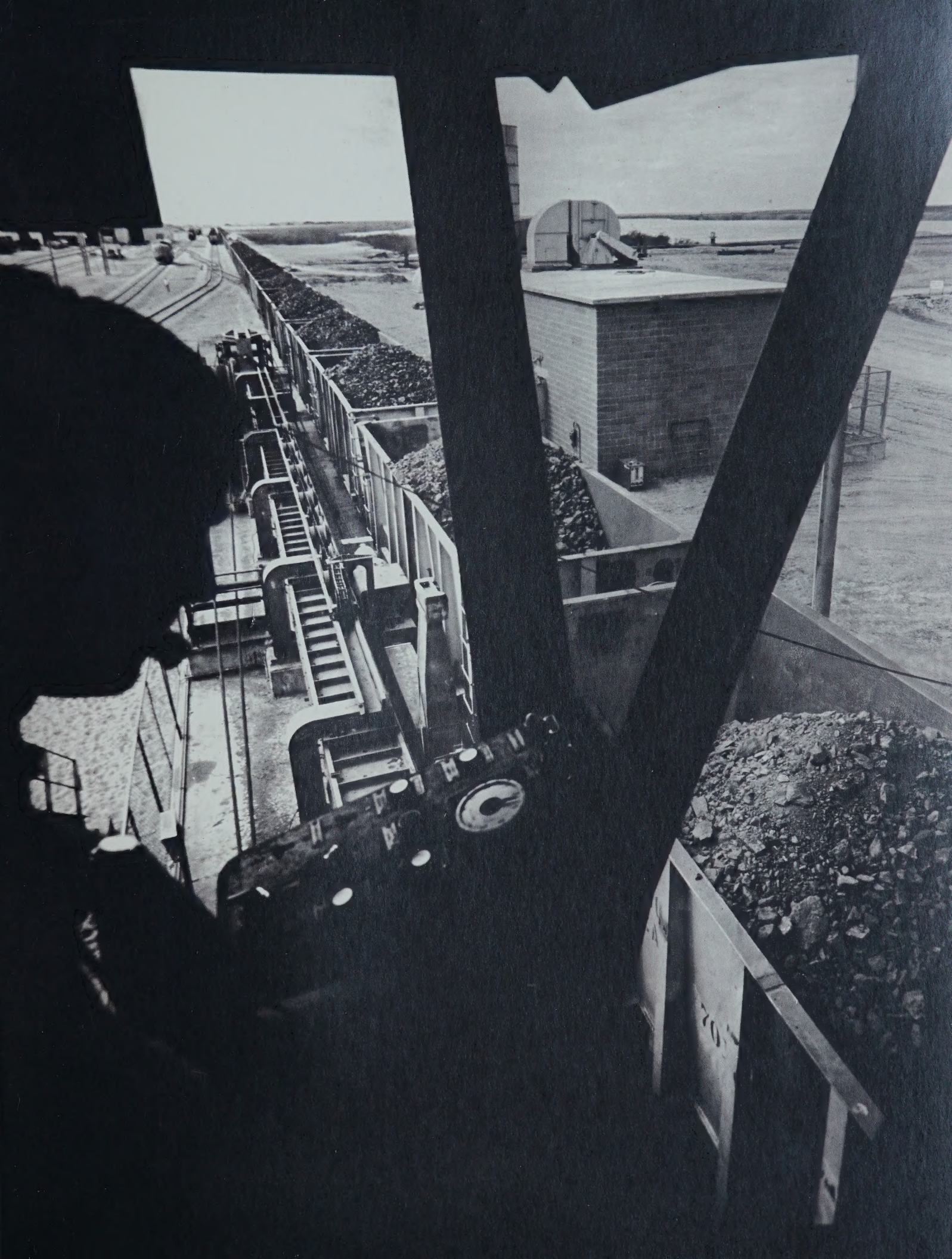
To the Shareholders and Board of Directors
AMERICAN METAL CLIMAX, INC.
New York, N.Y.

We have examined the consolidated statement of financial position of American Metal Climax, Inc. and its Consolidated Subsidiaries as of December 31, 1969 and the related statement of current and retained earnings and the statement of source and disposition of funds for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We made a similar examination for the year 1968.

In our opinion, the above-referred-to financial statements (pages 44 to 48 and page 39) present fairly the consolidated financial position of American Metal Climax, Inc. and its Consolidated Subsidiaries at December 31, 1969 and 1968 and the results of their operations and source and disposition of funds for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Lybrand, Ross Bros. & Montgomery

New York, March 17, 1970



The need to restore the environment is a particular responsibility in surface, or strip mining. Meadowlark Farms, a subsidiary, bears this responsibility for the Ayrshire Coal Company. Meadowlark has pioneered in land restoration for many years. It is a farming operation covering 80,000 acres, many of which it has reclaimed. But its principal responsibility is to see that the sites of former Ayrshire mines are restored as much as possible to their natural state and appearance. The adjoining pictures show what Meadowlark can accomplish in land restoration.

1. A huge power shovel at work in a surface, or strip mine. The machine stands 10 stories high, which gives some conception of the depth of the mine—and Meadowlark's problem.
2. By the time the coal has been exhausted, the raw walls of the mine have been smoothed by the deposit of the surface earth removed to uncover the coal seams.
3. Meadowlark fills the pit and gives it a preliminary grading.
4. After more grading, fertilizing, and planting, the former strip mine becomes a fertile farm with elbow-high crops.

